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Skeptical Inquirer

THE MAGAZINE FOR SCIENCE AND REASON
Volume 22, No. 3 • **May/June 1998**

SPECIAL SECTION

The Aliens Files

Abduction by Aliens Or Sleep Paralysis?

Before Roswell

The Meaning Behind the Crashed-UFO Myth

Case Closed

Reflections on the 1997 Air Force Roswell Report

Gray Barker

The **'Men in Black'** Hoaxer

A Skeptic Living in Roswell

Multiple Personality Disorder

Witchcraft Survives in the Twentieth Century

Published by the Committee for the Scientific Investigation of Claims of the Paranormal

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The SKEPTICAL INQUIRER (ISSN 0194-6730) is published bimonthly by the Committee for the Scientific Investigation of Claims of the Paranormal, 3965 Rensch Rd., Amherst, NY 14228-2743. Printed in U.S.A. Second-class postage paid at Amherst, New York, and additional mailing offices. Subscription prices: one year (six issues), $35; two years, $58; three years, $81; single issue, $4.95. Canadian and foreign orders: Payment in U.S. funds drawn on a U.S. bank must accompany orders; please add US$10 per year for shipping. Canadian and foreign customers are encouraged to use Visa or MasterCard.

Inquiries from the media and the public about the work of the Committee should be made to Paul Kurtz, Chairman, CSICOP, Box 703, Amherst, NY 14226-0703. Tel.: 716-636-1425. FAX: 716-636-1733.

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Subscriptions and changes of address should be addressed to: SKEPTICAL INQUIRER, Box 703, Amherst, NY 14226-0703. Or call toll-free 1-800-634-1610 (outside U.S. call 716-636-1425). Old address as well as new are necessary for change of subscriber's address, with six weeks advance notice. *SKEPTICAL INQUIRER subscribers may not speak on behalf of CSICOP* or the SKEPTICAL INQUIRER.

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Skeptical Inquirer

May/June 1998 • VOL. 22, NO. 3

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Roswell residents generally regard the UFO hoopla as harmless fun and a source of tourist dollars. Local civic leaders ignore the dark side of UFO mania, especially its common roots with sex-abuse hysteria and urban legends such as satanic cults.

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EDITOR'S NOTE

The Aliens Files and MPDs

Like it not, the aliens are among us. The theme of crashed saucers, alien visitations, alien abductions, and related folderol are embedded in modern popular culture. Mostly resistant to evidence or to common sense and reason, the faithful believe with a steadfast conviction that marks the UFO movement of the late twentieth century as a true secular religion. Nevertheless, I believe there is a vast middle ground of people who are simultaneously bemused or amused by all the media attention to this subject and amenable to fact, reasoned argument, and discussion. If anything, the hype of last year over the 50th anniversary of the first UFO flap and the Roswell crashed-saucer claims has provoked a backlash toward the more reasoned view. A number of respectable books on the subject have been published in the past year, and some previous UFO proponents have offered their own denunciations of the exaggerations and stories that shaped the myth.

Following up our previous heavy coverage of this topic last year, five articles, two book reviews, and one column in this issue focus on the aliens theme.

Psychologist Susan Blackmore suggests that the best explanation for many abduction experiences is that they are elaborations of the sleep paralysis experience. She goes on to relate experiments showing how the imagery invoked in sleep paralysis and waking dreams is related to amount of television watched.

Social psychologist Robert E. Bartholomew reminds us that stories of a crashed saucer in New Mexico are part of a broader myth that existed at least eighty-five years before the alleged Roswell saucer crash. History is a valuable tool in the skeptic's arsenal, he points out; it provides context and perspective and distance from emotion-based stories.

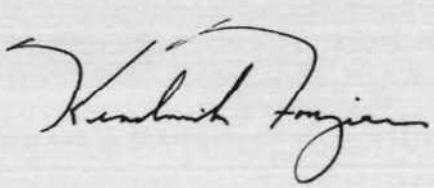
The conclusions of the latest Air Force Roswell report are examined and defended in an article by Bernard D. Gildenberg, a scientist who was involved for thirty years in the high-altitude balloon experiments flown by the Holloman Air Force Base Balloon Branch, and New Mexico physicist David E. Thomas, who has written extensively for us on the Roswell claims (and the Bible "code"). The authors present new information and findings on origins of parts of the Roswell legend.

Attorney Martha Churchill writes on what it was like to be "a skeptic in Roswell."

And finally, we present a confessional. John C. Sherwood, now a newspaper op-ed page editor, reveals how Gray Barker helped invent and popularize the Men in Black myth, and how Sherwood himself, writing then as "Dr. Richard H. Pratt," contributed to it. Barker was quite a character who never let facts get in the way of a good story. Reminds me of much of today's UFO literature.

* * *

Also in this issue, an article by psychiatrist August Piper, Jr., M.D., provides a major, and I think much-needed, critical examination of the epidemic of diagnoses of multiple personality disorder sweeping across North America. He shows how flawed reasoning, unsound claims, and logical inconsistencies in the MPD literature provide well-founded concerns. Is the diagnosis a modern form of witchcraft?



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Psychic Telephone Networks Profit on Yearning, Gullibility

It appears the powers of thousands of alleged psychics failed to predict misfortune and financial ruin at the nation's first psychic phone network. On February 2, Inphomation Inc., the company that operates Psychic Friends Network (PFN), filed for Chapter 11 bankruptcy protection. The company, based in Baltimore, Maryland, listed liabilities of $26 million and assets of $1.2 million.

Launched in 1990, Inphomation pioneered the use of '900' phone lines, spawning ubiquitous late-night and Saturday-afternoon infomercials. The 30-minute infomercials were hosted by singer Dionne Warwick and were supported by a network of 2000 psychics. Estimated revenue for the company in the early 1990s totaled close to $125 million, but in recent years competition and mismanagement combined to put Inphomation into debt.

Despite the recent bankruptcy of PFN, the psychic network industry is booming. Analysts predict the industry to rake in annual revenues from $1.4 billion to $2 billion by the end of the century, a dramatic increase from $620 million in 1994. Networks like Psychic Readers (PRN), Psychic Believers Network (PBN), and Psychic Encounters charge upwards of $3.99 a minute, potentially turning a 30-minute call into a $120 bill.

The rapid growth in psychic networks can be attributed to the merger of traditional belief in psychic power with the explosion of the mass media. It began in 1984, when the FCC deregulated the amount of broadcast time stations could allocate to advertisements. With the average American watching four hours of television a day, entrepreneurs recognized a captive audience, and the infomercial was born.

Gallup polls indicate that Americans' overall belief in the power of the mind to predict the future has remained at about 26 percent since 1990. But with television bringing celebrities into America's living rooms to tout the power of psychics, network infomercials have made the impulse to act on credulous belief just a seductive phone number away.

The marketing potential for psychic networks is almost unlimited. On most networks, at the beginning of each call, psychics take the names and addresses of callers. These are added to mailing lists and used as leads for a variety of products. Along with hotline numbers and personal testimonials, psychic network infomercials tout psychic accessories ranging from tarot cards to fortune-telling eight balls. The World Wide Web is the next frontier for psychic marketing, with websites charging $25 and up for e-mail readings.

It may be a bull market for psychic network revenue, but there appears to be a growing undercurrent of discontent. Callers are frequently frustrated by per-minute charges that include time charged for network introductions and delays caused by recorded profiles, menus of psychics, and signups for free newspapers. Customers, enticed by promises of ten free minutes of calls, often receive their bills with the application of the incentive a mystery.

The most troubling charges levied against the psychic networks are that they market to minorities and individuals with lower levels of income. It seems odd that networks prefer to use almost exclusively African-American celebrities like Billy Dee Williams, Phillip Michael Thomas, Dionne Warwick, LaToya Jackson, and Nell Carter as hosts. Masquerading as a phone psychic, writer Stephen Glass published a first-hand account of his experience with a psychic network in the February issue of *Harper's* magazine. According to Glass' tabulations, more than 74 percent of his callers were African-Americans and close to 85 percent said they were having money troubles.

In a twist of irony, the psychics who man the phone lines are starting to rebel against the corporatization of their "ancient art." An August 1997 *Miami Herald* investigative report revealed that psychics' wages at PRN from June 1996 to May 1997 fell from $19.20 an hour to $15.00 an hour. Stephen Glass in his *Harper's* article wrote that some psychics were upset over the networks' marketing to minorities and lower income individuals. Other psychics complain that the networks are hiring "phony" psychics. As one self-proclaimed mindreader told the *Miami Herald,* "I feel they're hiring people just to get money and the vast majority are not psychic at all and are making things up just to keep people on the line. It gives us a bad name. It makes me ashamed of what I have to do."

The psychic's complaint begs the question: Is psychic ability real? According to company policy, Psychic Readers Network will "to the best of its ability hire only qualified psychics who have been tested and interviewed by PRN, not 'chat' operators." However, contrary to whatever testing methods PRN uses, numerous carefully designed and conducted tests by prominent scientists have failed to validate psychic ability. In addition, attempts to use psychics for practical purposes such as earthquake prediction, government espionage, and crime solving have all proved unsuccessful. With evidence lacking in support of psychic ability, networks appear to be marketing a service that does not exist.

Most infomercials skirt the issue of psychic validity with screen disclaimers that announce "for entertainment purposes only." Unfortunately, most callers are very serious about being told their future. Many psychics report that callers beset by personal or financial problems are not interested in information leading to counseling or professional services, but are desperately seeking the outcome of their tarot card reading or horoscope prediction. In 1993, PRN briefly ran a Professional Advisors Network with psychologists, psychiatrists, and psychother-

apists replacing psychics. According to PRN, no one called, and the service was shut down.

Since early man, there has been a human willingness to believe in the magical. The claim of psychic ability offers the reassuring and assuaging hope of controlling our lives by anticipating the future. The temptation to believe in the paranormal exists in part because criticism and evidence contrary to paranormal phenomena are seldom heard. In this, the media are duplicitous. Investigative reports of psychic networks, including a 1993 ABC Primetime Live feature and the 1997 *Miami Herald* investigation, have ignored the question of the validity of psychic power. Until the mass media confront claims of psychic ability and claims of the paranormal with scientific and critical evaluations, public ignorance and credulousness will persist.

—*Matthew Nisbet*

Matthew Nisbet is Public Relations Director for the SKEPTICAL INQUIRER *in Amherst, New York, and coordinator for the Council for Media Integrity, a network of distinguished scientists, academics and members of the media concerned about the portrayal of science in the media.*

'Therapeutic Touch' Fails a Rare Scientific Test

Therapeutic Touch (TT) is an "alternative" medicine technique said to be used by over 40,000 nurses in North America alone. Despite its widespread use, practitioners of TT have been reluctant to submit their therapy to scientific testing. But now researchers have conducted a rare scientific study of the key claim made by practitioners—the claim that they can detect a "human energy field" unknown to science and to "heal" people by "balancing" the field. The results of this test will be reported in the new Spring 1998 issue of *The Scientific Review of Alternative Medicine* (available April 24).

"A recent review of the literature shows that there is no convincing evidence that the alleged healings by TT are anything more than the placebo effect," says Wallace Sampson, M.D., Editor of the *Scientific Review.* "Most writings on TT are speculation and commentary, which simply do not address the core question: *Can TT practitioners detect alleged 'energy fields' or not?* This simple experiment, though limited in scope, is a direct, scientifically valid test of this question."

As detailed in the report, before the experiment, a TT practitioner agreed to the study protocol and asserted that she could distinguish between the "energy field" of an injured or painful limb and that of a normal limb. During the test, she attempted to distinguish the "energy fields" surrounding the arms of two different people, one with a painful wrist and one with no symptoms. When the practitioner knew the identity of two participants (through the use of normal senses), she was able to correctly distinguish the two people. But when the identity of the two participants was hidden from her, she failed to correctly distinguish between the two, scoring no better than that predicted by chance.

"Even though the results of this single test were negative, it does not rule out the possibility that TT energy fields exist or that other TT practitioners can detect them," say Robert Glickman, RN, and Ed J. Gracely, Ph.D., authors of the new report. "However, the existence of 'human energy fields' and the ability to detect them remains extraordinarily doubtful.

"TT proponents have spent twenty years focusing on which ailments TT can be used for, without first determining if anyone could actually detect a human energy field. Practitioners have made a poor showing in the few times they have allowed themselves to be tested, and the large majority has been silent."

Despite this lack of evidence, TT is now supported by major nursing organizations such as the National League of Nurses and the American Nurses Association. "Energy-field disturbance" is now listed as a nursing diagnosis by the North American Nursing Diagnostic Association.

The Scientific Review of Alternative Medicine is the only peer-reviewed medical journal in the world devoted exclusively to the scientific evaluation of "alternative" medical claims. The review publishes original research, critiques published studies, reviews available evidence for claims, and discusses the methods and principles of valid research. Topics covered in the Spring 1998 issue include acupuncture, oxygenation therapy, naturopathy, magnet therapy, St. John's Wort, the ethics of alternative medicine, and an experience with a Tijuana cancer doctor. The journal is published by Prometheus Books and sponsored by the Council for Scientific Medicine.

Gish and Creationism at Murray State: A Child's Garden of Verses

On February 25, Duane T. Gish, loudly touting his Berkeley Ph.D. in biochemistry and his having rubbed shoulders with Nobel laureates, participated in a "debate" on evolution vs. creationism, at Murray State University, in Murray, Kentucky. According to the sponsors, Gish "won" the debate. As an interested observer to most of the events surrounding this spectacle, I was not enlightened, but entertained. Based on the promotions for the heavily advertised "debate," one would have expected an evening of scientific discussion, free from philosophy or theology. In fact, we got showmanship, less effective than the "Psychic Hot Line," but adequate to provide rationalizations for the faithful.

According to what we were told, it all started in the mind of a Protestant minister named Mark Randall, who had a vision. He dreamed of being able to

bring Gish, the author of several tracts proclaiming the "scientific" basis of creationism, from the Institute for Creation Research (ICR) in a modest suburb of San Diego, to Murray State University, so that he could explain his views on creation "science." When he found out Gish's fee is only $300, he was delighted and set about arranging a visit. He put up fliers around campus, offering $100 to a student who could find a professor to debate Gish. There were no takers.

Several of us—Murray State University Science faculty and other, interested parties—wrote a letter to the student paper explaining why we did not believe such a show was appropriate for serious scientific discussion, and why Gish could not be trusted to be scientific, based on his record. The offer was upped to $500, to whomever would 'debate' Gish, and another $500, if the debater could "win" (as defined by audience response). An Assistant Professor of History, Dr. William Schell, took the challenge (and the $500), and the 'debate' was on. Gish responded to our letter, loudly proclaiming his credentials as a biochemist (while complaining that our comments against him were *ad hominem*). A further response of mine to his published complaints and questions was heavily "edited" (not to say censored) by the student paper, so that it was more or less gibberish by the time it appeared in print.

Murray State University is in the far western part of Kentucky, an area called the "Purchase" (because President Jackson purchased it from American Indians). This region was confederate in sympathy during the Civil War, and has been lagging behind the rest of the nation ever since, by any measurement. The educational level of the citizens is much below the national average, both in percentage of college graduates and in *high school* graduates. As a result, income is well below the national average. Basketball, tobacco, and Protestant religion, in that order, hold oppressive sway over the region. The local citizenry allow maximal personal freedom for smoking and gun ownership (including the carrying of concealed weapons), but little or none in any other area. (In order to have a beer with one's pizza, it is necessary to drive ten miles south, into Tennessee, where five of the first seven businesses one meets are night clubs, cafes, or stores that sell alcohol.) The university is an upgraded teacher's college, which won its "university" designation during the explosion of such nominal improvement in mid century. The campus focuses on agriculture, education, and business, and few students major in any of the traditional arts or sciences (those who do are of strikingly high quality, however, representing a small, intellectual elite).

The "debate" was held in the grand ballroom of the student center, which may be the biggest room now available in the county. Like most such events, the organizers had not thought of body heat, and the room became oppressively hot as soon as it filled, which it did. I was astonished that the area in which I was sitting was perhaps forty percent children, ages nine to sixteen or so. Since it had been advertised as strictly "scientific," how was it possible that so many children were interested in such things as the second law of thermodynamics? Gish talks a lot about this law, claiming that entropy denies the possibility of evolution. Despite the fact that he must have taken courses in thermodynamics at Berkeley, he continues to talk about entropy, as Isaac Asimov (another biochemist), has said, "at the kindergarten level."

Gish led off, and the format was to be one hour for him, one hour for Dr. Schell, twenty minutes of rebuttal each, followed by shorter rebuttals. This was designed, despite starting at 7 PM, to last until well after 10 PM, on a school night. (Those children should be home doing homework, and sleeping!) This was child abuse. Gish spent over half an hour talking about the big bang theory of the universe's origin, then about twenty minutes on the origin of life, and finally about fifteen minutes on evolution, the stated topic.

Biochemistry is seen by many of us as fundamental to a modern understanding of evolution. Most important are some of the discoveries since Gish's Ph.D., but he provided no biochemical discussion except his silliness about entropy. Gish never mentioned any of the most important recent biochemical discoveries relating to evolution, despite the fact that a few of these (e.g., Numa's work on protein structure and Cech's work on ribozymes) were pointed out to him before his presentation in a personal letter. (In fact, his remarks on enzymes were totally obviated by the discovery of ribozymes.) He began with lengthy remarks about the Murray State basketball team, and ended each of his rebuttals with a direct biblical quote (to standing ovations).

Most of the time his opponent was speaking, Gish was doing something or other that attracted the audience's attention away from the speaker (show business "upstaging"). He provided distraction all of the time during his opponent's making telling points against him, such as documenting his past evasions, distortions, and falsehoods. He was even able to get laughs while his opponent was speaking.

Toward the end, after the two main presentations, Randall took an "offering," standard in Baptist Churches, making it the only "scientific" forum I have attended, in forty years in biochemistry, where an "offering" was requested. During the breaks, people were reminded to fill out index cards indicating whether they believed the evidence presented was stronger for evolution or for creationism. One such card, filled out by a boy who sat next to me, about eleven years old, said he believed in God, he believed the scientific evidence for creationism was stronger than for evolution, but he did not want to be contacted further by Randall.

Gish's comments on evolution, brief and few, were almost all *ad hominem* quotes from various people (even Isaac Asimov, but not the quote mentioned earlier). He talks a great deal about having worked with two Nobel Laureates, but never mentions that he has never

been accepted into the professional biochemistry society, the American Society for Biochemistry and Molecular Biology. His published work, as I have reviewed it, does not touch on the more biological areas of biochemistry; his focus was *in vitro* synthesis. His biochemical career was modest, to say the most, and ended about twenty years ago. His previous "debates" started with appearances at such institutions as Berkeley, Harvard, and the University of California at San Diego. Over time, he has moved down the academic prestige scale, appearing more and more frequently in regional state universities, and often in the Bible Belt.

The only scientific point he made this time was his belief that there is a lack of fossil evidence for transitional forms between invertebrates and vertebrates. [He has finally admitted that there are Pre-Cambrian fossils (i.e. older than 600 million years), after denying it for years, but he did not discuss the obvious impact this has on his assertion that all life started at the same time.] All other actual science, mentioned by his opponent, was dealt with by deceit or evasion, or by simply ignoring it. The only question in my mind before the event, not having previously seen him in person, was whether he actually believes the ridiculous things he says or whether he cynically manipulates his audience, knowing it is stacked with supporters who know little of science, almost nothing of thermodynamics, and who couldn't care less about learning any of these matters. I came away convinced of the latter. Gish is not stupid, but cynically manipulative. So much the worse.

At the end of the show, Mr. Randall asked those remaining in the audience to stand, first those who believed the evidence favored creationism, and then those who believed it favored evolution. I was relieved by how many "voted" for evolution. (There is an intellectual elite here.) Creationism won, of course; there was too little time to teach all those children the philosophy and history of science. The sponsors can now rest easily, sleep comfortably, knowing that their local supporters, and their children, have "proved" that science supports creationism, and that they have accepted Duane T. Gish as a "distinguished" scientist. Both beliefs are equally true.

—Gaynor Wild

Gaynor Wild is a biochemist. A former member of the faculty at the University of New Mexico School of Medicine (now retired), he now lives and teaches part time in Murray, Kentucky.

CSICOP Website Recognized

The CSICOP website, www.csicop.org, was named among the World Wide Web's top 500 sites for 1997 by computing magazine *HOME PC.* The respected personal computing and technology monthly also rated the CSICOP website among the top ten on the Web for science.

"Did aliens build the pyramids? Does alternative medicine work? Such claims are critically investigated from a 'responsible, scientific viewpoint' on these pages, which also host the SKEPTICAL INQUIRER" writes *HOME PC.* A listing of the magazine's top ten science websites can be found on the Web at http://techweb.cmp.com/hpc/websites/42WEB23.HTM.

The CSICOP web site offers features and articles from the latest issues of SKEPTICAL INQUIRER. It also displays articles from the *Skeptical Briefs* newsletter, as well as audio and visual clips from recent CSICOP media appearances. The site archives past press releases, weekly reports and timely announcements, and includes a skeptics chat room with links and listings for an international network of skeptical organizations and Web resources.

"The media have now virtually replaced the schools, colleges and universities as the main source of information for the general public. The irresponsibility of the media in the area of science

and the paranormal remains a worldwide problem. It is even a greater crisis in the 'new' media. The Web has exploded with extraordinary claims. CSICOP's web site is meant as an on-line guide for criticism of the paranormal and pseudoscience. It is an integral part of CSICOP's campaign to promote critical thinking and reason" says CSICOP chair Paul Kurtz. The CSICOP website was created and is maintained by Atlanta-based skeptic Patrick Fitzgerald.

—Matthew Nisbet

Cold Fusion Saga Ends at Its University of Utah Birthplace

Has the final death knell for cold fusion been sounded? Its remaining die-hard devotees will surely disagree, but a critical blow came in March at the very birth place of the cold fusion claims, the University of Utah in Salt Lake City.

It was at a dramatic news conference there nine years ago, on March 23, 1989, where two University of Utah scientists, B. Stanley Pons and Martin Fleischmann, first claimed to have produced nuclear energy in a test tube. They said their simple tabletop device was producing such incredible amounts of heat that it could only be explained

by nuclear reactions. The reaction was a combination of extraordinary excitement and profound skepticism.

A worldwide effort to duplicate their experiments ensued. Laboratories all over the world quickly set up their own experiments. Universities, government labs, and private companies carried out studies. The U.S. Department of Energy asked its national labs to design and conduct experiments to test the claims and charged its Energy Research Advisory Board (ERAB) to convene a panel to assess the possibility of cold fusion.

With only a few exceptions, the results were negative. The claims did not stand up. By November the ERAB panel had come to its consensus conclusion: "The panel concludes that the experimental results on excess heat from calorimetric cells reported to date do not present convincing evidence that useful sources of energy will result from the phenomena attributed to cold fusion. In addition, the panel concludes that experiments reported to date do not present convincing evidence to associate the reported anomalous heat with a nuclear process" ("Cold Fusion Research," DOE/S-0073, November 1989).

Most of the initial enthusiasm was by then already gone, but the University of Utah had set up processes to capitalize on what it had originally hoped might be an economic windfall from cold fusion–related patents and innovations. For years to come enthusiasts elsewhere maintained that the scientific establishment was wrong and the claims would be, or already had been, vindicated.

But on March 10, 1998, University of Utah Research Vice President Richard Koehn announced that the university's Research Foundation would no longer pursue patents based on the experiments of Pons and Fleischmann.

Pons and Fleischmann left the university within two years of the initial furor, and the university eventually transferred the patent rights to a private company, ENECO. The university was forced to look for another licensee when ENECO gave back the rights, but no viable offers surfaced.

Pons and Fleischmann had the option to take up the fight themselves, but Koehn said the university never heard from them.

—Kendrick Frazier

ABC's *Prey* —Not Exactly the Science Adventure Promised

Despite my occasional presence in these pages, I like spooky television shows. *Outer Limits, Twilight Zone, Forever Knight,* heck, even reruns of *She-Wolf of London* and *Friday the Thirteenth—The Series* make me cringe with glee and cancel appointments, opting for television instead! (In fact, I truly love the last one, with its bad Canadian actors and an endless array of cursed light bulbs, man-killing toasters, strangling dog-collars, lifeguard-drowning jack-in-the-boxes, Nazi ventriloquist dummies, and even the horrible, dreaded chipper shredder from hell.) Do I lose my skeptics card? Heck no! CSICOP refuses to give me one. But if they did, I could keep it anyway, as something happens to me when these shows claim to be scientific and blow it badly. Pseudoscience in the classrooms is bad enough without pseudoscience in B-Movies!

Which brings me to *Prey*, a one-hour series that premiered on ABC Thursday, January 15, at 8 PM EST. According to my local TV schedule insert, *Prey* is an "intelligent" and "literate" thriller. But is it? *Prey* begins with Sloane Parker, a bio-anthropologist, portrayed by Debra Messing, an attractive actress known for the long-missed FOX *Ned and Stacey* sitcom (another of my favorites, by the way). We soon see that a bio-anthropologist is a scientist who sits around in a lab on a college campus talking to computers and caged rhesus monkeys. (It's 2012, so the computers talk back. The monkeys don't though—that was another old movie and TV series.) Her mentor, another bio-anthropologist, is an expert who studies DNA evidence to track down serial killers, which must be what bio-anthropologists do when they aren't talking to computers and caged monkeys.

We soon discover, through roundabout means, that there are serial killers with very strange DNA. In fact, they are not human. Their DNA is 1.6 percent different from ours, which the publicist was pleased to tell me is a greater difference than between us and apes. (She meant chimpanzees, I'm sure.) In fact, its this DNA difference that makes these serial killers act like serial killers ("normal" serial killers, being another case). When her mentor is killed, by the non-human serial killers, of course, Parker is endangered, as she is one of the few humans to know of the existence of this "new species."

So why write about it here? Because of the following statement: "One thing I really love about our show is that it's not really sci-fi. We call it science fact," Messing publicly stated. Well, its not sci-fi, for sure, but the science was more accurate on Ned and Stacey. (Stacey's creepy husband Ned's hobbies included watching films of autopsies and operations.) Despite Messing's claims to love science and evolutionary theory, the science is generally wrong. About a year and a half ago, I reviewed *The Burning Zone* in these pages, a show that was so stupid, and yet made such pretentious claims to being science-fact oriented, that it made me want to throw shoes at the television. (For those of you who missed it, it featured snarly, fashion-model scientists chasing intelligent hive-mind vampire zombie viruses with flame throwers.) In its defense, *Prey* isn't nearly that bad. It's just that it isn't particularly good. And, sadly, it's most certainly not "literate" or "intelligent."

As for science, it is carefully explained that for 300,000 years Neanderthals ruled the Earth. This is illustrated by a painting of austropol-

continued on page 12

Fund for the Future

CSICOP AT THE CENTER FOR INQUIRY

An Unprecedented $20 Million Drive for th

Human beings have never understood the material universe as thoroughly as they do today. Yet never has popular hunger for superstition, pseudoscience, and the paranormal been so acute.

CSICOP and the *Skeptical Inquirer* are leading advocates for skepticism nationally and worldwide. But so much more must be done in the years to come.

Day and night, the Center for Inquiry has become a focus of academic and popular inquiry.

Publishing revenues alone cannot fund the bold outreach today's challenges demand. Hence the Fund for the Future Campaign, a ten-year effort to add 20 million dollars to the Center for Inquiry endowments.* Gifts and endowment income will fund projects including:

Council for Media Integrity

Formed just weeks after its inclusion in the Ten-Year Plan, the Council for Media Integrity will monitor and rebut media programs that convey unfounded claims and mislead the public about science. Members include Steve Allen (chair), Stephen Jay Gould, and many others. CSICOP will invest in electronic infrastructure to facilitate rapid response to irresponsible programs.

Adult Education

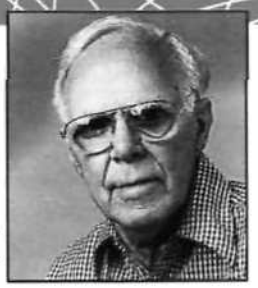
The Council cosponsors the Center for Inquiry Institute, which has already expanded its offerings to include a new three-year certificate program in science and skepticism. Sessions are scheduled in Amherst and Los Angeles.

Enhancing Library Resources

The Center for Inquiry's skeptics' library—already the finest of its kind in the world—needs expanded funding to enlarge its core collection and add electronic media. Worldwide modem access to the library's catalog is already nearly complete.

*Combined endowment goal of CSICOP and the Council for Secular Humanism, both nonprofit tax-exempt educational organizations.

Steve Allen
Honorary Co-chair



Martin Gardner
Honorary Co-chair

Future of Science and Reason

The New Ten-Year Plan

To continue its leadership in the defense of reason, CSICOP has articulated a Ten-Year Plan designed to:

- *Promote science and reason*
- *Develop public support and participation*
- *Develop The Center for Inquiry as an education and research center*
- *Build up the Committee's resources*

The Center for Inquiry attracts global media attention with scholarly conferences and events like this public "Friday the 13th Superstition Bash."

For the Young

To present skeptics' message more compellingly to the young, CSICOP will develop new materials—ranging from age-appropriate print publications to audio and video cassettes and instructional courseware. Goals include enhanced understanding of science and improved critical thinking skills.

Regional Outreach

With the establishment of The Center for Inquiry - West (Los Angeles), The Center for Inquiry - Midwest (Kansas City) and The Center for Inquiry - Rockies (Boulder, Colorado), giant steps have been taken to enhance direct field service to skeptical activists. Additional regional Centers are planned with expanded calendars of activities.

How Can I Help?

The Center for Inquiry Fund for the Future depends on generous support from each of our readers and friends. Gifts of cash, securities, and other assets are sought. A three-year pledge can make more substantial gifts surprisingly affordable. Many forms of planned giving arrangements can be arranged. All requests will be held in confidence.

Only financial support from skeptics and other friends of science can place the skeptical movement on a firm financial foundation.

At the first World Skeptics Congress in Amherst, New York, participants gave or pledged an unprecedented $201,000 to give the Fund for the Future campaign a vigorous start.

We invite you to make your commitment to the Fund for the Future today. For more information, complete and mail the postpaid reply card.

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ithicenes on the African plains. When *Homo sapiens* came into existence, they proved superior, competed with the Neanderthals, and drove them into extinction. This is because they competed for the same ecological niche. I count four major mistakes so far. In 2012, it seems, a new species of man (*Homo ted bundy*?) has been produced by the pressures of global warming. When one character points out that twenty years is not enough time for a new species to evolve, Sloane Parker responds, "Well, maybe global warming has been going on for a hundred years undetected." (!?) [In fact, there are several outdoors scenes, and, so far, 2012 looks pretty much like 1998, global warming or no.]

But forgetting the past, do the creators understand evolution? (And what about internal series logic?) First, nobody knows the other race exists, until Parker discovers them through blood testing. Yet the new species seems to be organized enough to have developed a cohesive philosophy based on the idea that they must wipe out the human race and take our place. The entire notion, I'm afraid, of a new species springing into place, achieving adulthood, and developing a group identity overnight without being noticed, even in Southern California, is very illogical. The time frame, be it twenty or a hundred years, is completely wrong for evolutionary theory to be relevant. Does the species share a common ancestor? Do they live together in their own place? If these are our descendants and relatives, didn't they go to our schools and have to take physicals and such? If not, where did they learn English? Besides, if this species is so different from us, why do they look exactly like us to the point of all (so far) being Caucasian?

Perhaps, things will improve and clear up in future episodes if the show lasts, but it seems unlikely. There's probably as much chance of this show surviving as of my ever seeing a return of *Ned and Stacey* to prime-time TV.

So when all's said and done, does it matter that a bad TV show was put on TV? Probably not. Yet it's curious to think, as spooky entertainment, *Prey* would have been much more internally logical and entertaining if it had contained a supernatural race, vampires perhaps, living in the shadows, stalking mankind instead of a poorly thought out "new species." Yet, like the *Burning Zone*, somebody felt the public wanted a contemporary, intelligent, science-oriented action series and advertised this as such. And that's good. Perhaps someday we'll see such a series. Yet, somehow, in both cases, the production crew found actual science to be beyond their grasp, and that's a bit disturbing.

—Peter Huston

Peter Huston is an author and freelance writer living in Schenectady, N.Y.

Paranormal Web Sites Proliferate

With recent surveys indicating that 70 percent of women and 48 percent of men believe in the paranormal (March/April SKEPTICAL INQUIRER, p. 8), it is not surprising that the World Wide Web abounds with information on paranormal phenomena. The Yahoo search engine lists over 1,000 such sites under the heading "Science: Alternative: Paranormal Phenomena." To give an idea of the range of material on the web, I have sorted these topics by the number of web pages in each category. (Of course, these numbers change almost daily and only represent a tiny sampling of the entire corpus of web pages devoted to the paranormal but not indexed at Yahoo.) Some numbers are approximate because these major headings include subheadings and subsubheadings, and I did not carefully go through the entire hierarchy to obtain exact counts of all web pages under all subheadings. Naturally some categories overlap.

Companies (523)	Voodoo (18)	Spiritism (7)
Extraterrestrial Life (423)	Crop Circles (16)	Remote Viewing (7)
Astrology (156)	End of Millennium (16)	Bell, Art (7)
Witchcraft (114)	Near-Death Experiences (16)	Luck (6)
Magick (87)	Occult (14)	Biorhythm (6)
Divination (82)	Parody (14)	Healings (5)
Mysticism (71)	Astral Projection (12)	Hollow Earth (5)
Skeptics (46)	Loch Ness (11)	Spon. Human Combustion (5)
Ghosts (43)	Kirlian Photography (10)	Chat (4)
Cryptozoology (33)	Ancient Civilizations (9)	Personal Experience (4)
Parapsychology (23)	Reincarnation (8)	Usenet (4)
Horror (22)	Alchemy (7)	Bermuda Triangle (2)
Magazines (19)	Dowsing (7)	
Organizations (18)	Regional Guides (7)	

Note that the "Extraterrestrial Life" category is dominated not by scientific speculation but by topics such as Roswell, aliens, and close encounters. The "Companies" category deals with such topics as astrology, tarot, numerology, and other psychic phenomena. It would be fascinating to see how these numbers and categories change through time, and perhaps in future articles I will describe the content of pages within each category in greater detail.

—Clifford A. Pickover

Clifford Pickover is at the IBM Thomas Watson Research Center. He is author of numerous books on science, mathematics, and computing. □

Zero-Point Energy and Harold Puthoff

I always get the creeps when people talk about virtual particles.

—Victor Weisskopf, as quoted by K. C. Cole in *Science as Metaphor*

One longs for a new Einstein who will, in a flash of insight, give us back our lovely nothingness.

—Leon Lederman, in *The God Particle* (1993)

In the December 1997 issue of *Scientific American*, staff writer Philip Yam's article "Exploiting Zero-Point Energy" is devoted to a ten-year struggle by physicist Harold E. Puthoff to build a device that could tap the fluctuating energy of supposedly empty space-time. An episode called "Beyond Science" of PBS's *Scientific American Frontiers*, which aired on television the previous month, also had a segment devoted to Puthoff's ambitious research program.

What *Scientific American* failed to reveal, both in Yam's excellent piece and on its TV show, was that Puthoff is none other than the Harold Puthoff who twenty years ago validated the psychic powers of Uri Geller. In 1976 Puthoff and his friend Russell Targ were on the staff of what was then called the Stanford Research Institute (SRI), now SRI International. Their book *Mind-Reach* (1976) tried to convince the world that ESP, PK (psychokinesis), and precognition now have, thanks to their valiant efforts, become firmly established phenomena. Margaret Mead wrote the book's enthusiastic introduction.

Most of the work of Puthoff and Targ at SRI was devoted to what they called "remote viewing"—the ability of psychics to "see" scenery at any distance away—perhaps even to remote view the surfaces of other planets. Chapter 7 described experiments which they said proved that Israeli magician Uri Geller had strong psychic powers. In later papers Puthoff and Targ claimed astonishing success with an ESP teaching machine. They also claimed to have validated Geller's ability to guess correctly how a die had fallen when shaken inside a closed box.

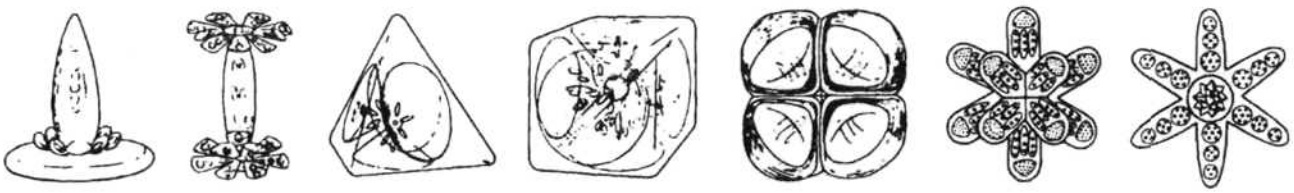
The original manuscript of *Mind-Reach* contained several pages outlining what the authors insisted was a sure-fire technique of using precognition to win large sums of money at roulette tables. Although Mead believed strongly in paranormal powers, she objected so vigorously to including this betting method in the book that it was removed from the published edition, though not from proofs sent to reviewers.

Prior to his work at SRI, Puthoff was an active Scientologist. He had been declared what the group calls a "clear"—a person free of "engrams." Engrams are alleged to be records on an embryo's brain, long before it grows ears, of what its pregnant mother is speaking or hearing. These records are said to cause neuroses and psychoses in one's adult life. When Puthoff married, a Scientology minister performed the ceremony. The Church of Scientology proudly published a 1970 notarized letter written by Puthoff when he was a Stanford University physicist specializing in laser research, a topic on which he had coauthored a textbook. Five years earlier he had earned his doctorate in electrical engineering at Stanford.

"Although critics viewing the system [Scientology] from the outside," Puthoff wrote in his letter, "may form the impression that Scientology is just another of many quasi-educational quasi-religious 'schemes,' it is in fact a highly sophistical and highly technological system more characteristic of the best of modern corporate planning and applied technology."

The letter goes on to praise Scientology's E-meter, a simple electronic device used by "auditors" to uncover a patient's engrams. "In the technical community here at Stanford, we have projects underway employing the techniques developed in Scien-

Martin Gardner's latest book is The Last Recreations *(Springer-Verlag, Copernicus, 1997), a collection of twenty-three of his* Scientific American *columns from the last seven years before his retirement from the magazine in 1981.*



Some typical examples of atomic structure as "seen" clairvoyantly by two leaders of theosophy and published in their 1910 book *Occult Chemistry*.

tology." Puthoff adds that Scientology is an "uplifting and workable system of concepts which blend the best of Eastern and Western traditions. After seeing these techniques in operation and experiencing them myself, I am certain that they will be incorporated eventually on a large scale in modern society as the readiness and awareness level develops."

L. Ron Hubbard, the science-fiction writer who invented Scientology and became its guru, wrote a book titled *Scientology: A Religion.* Puthoff provided its preface. In it he blasts the FDA for calling the E-meter useless. He likens attacks on Scientology to attacks made on Harvey, Galileo, Semmelweiss and Copernicus. "Nevertheless," he concludes, "it is incumbent upon the pioneers of new developments to press forward their discoveries in the face of all opposition."

After leaving SRI in 1987, Puthoff was hired by a think tank in Austin, Texas, called The Institute for Advanced Studies. (It has no connection with the institute of a similar name in Princeton, New Jersey.) On May 28, 1987, at an Austin conference, Puthoff gave a speech on "One Hundred Years of Remote Viewing." He praised the value of precognition in making stock market predictions, and the ability of remote viewers to detect astronomical features of planets before those features are seen by telescopes or space probes. This was followed by a statement of which I hope Puthoff is now thoroughly ashamed. He referred to a 38-year effort by two followers of Madame H. P. Blavatsky, founder of theosophy, to remote view the inner structures of atoms!

Annie Besant and C. M. Leadbeater published their curious results in a book titled *Occult Chemistry* (1908). It swarms with drawings of the inner structures of atoms. These outlandish sketches have absolutely no scientific merit, but Puthoff was convinced that occasionally they anticipated modern particle physics! In an excerpt from his speech, quoted in *The Explorer* (Vol. 4, October 1987), Puthoff called these sketches a "remarkable" study of the "basic constituents of matter." The sketches, he said, "found relatively little correlation with known scientific fact until the recent development of quark and superstring theories, which show striking correspondence to the reported observations." The striking correspondence, alas, is visible only to Puthoff and theosophists.[1]

I do not know what Puthoff now believes about the Besant-Leadbeater micro-remote viewing of the interior of atoms, or about the "genius" of L. Ron Hubbard, or the efficiency of E-meters. Reincarnation was one of a raft of strange doctrines Hubbard added to dianetics when he turned it into a tax-free religion. Today it is as essential a belief for Scientologists as it is for theosophists. Puthoff is on record as saying he no longer is associated with Scientology, but how much of it does he still buy? Does Dr. Puthoff still think that mental ills can result from experiences in previous lives? As far as I know, Puthoff no longer conducts experiments in remote viewing. He and Targ went their separate ways after leaving SRI.

For the past decade Puthoff's tireless efforts, at the Institute for Advanced Studies where he is now director, have gone into searching for a way to obtain unlimited free energy from the quantum fluctuations of empty space. To almost all other experts, this search is as Quixotic and futile as the search for a perpetual motion machine. They see the situation as comparable to having research on how the brain works directed by a neuroscientist who believes in phrenology. According to Yam, Puthoff's institute has examined about ten devices for tapping the energy of space, all of them failures.

Zero-Point Energy (ZPE) is a term for the energy that constantly fluctuates in the vacuum of space and at the heart of all matter. If the temperature of matter could be lowered to absolute zero, it was once thought that its atoms and inner electrons would stop moving and the matter would collapse. It is now known this cannot occur. ZPE keeps the atom constantly jiggling. Heisenberg's famous uncertainty principle forbids it to become motionless.

This jiggling also applies to any particle supposedly at "rest." Imagine an electron being squeezed into a smaller and smaller space by a piston. As the electron's position becomes more accurately known, the uncertainty relation ensures that its momentum becomes fuzzy and more intense. The electron cannot be totally motionless because then its position and its zero momentum would be precisely known. As the electron is squeezed into an increasingly tiny space, its pressure on the piston increases as it strikes the piston with greater force and frequency. It is this pressure of electrons within every atom that preserves the atom in what is called its "ground state.

The incessant fluttering of all particles when at absolute zero has been verified in numerous ways. The Lamb shift, for example, results from the action of ZPE on spectra. In the famous Casimir effect, ZPE forces two parallel metal plates to move closer together. ZPE causes low-level noise in microwave receivers. It excites the atoms in fluorescent lamps. It plays a role in the surface

tension of liquids, in images on eye retinas, in the scattering of light that makes the sky blue, and many other physical phenomena. In cosmology it sends out radiation from black holes. Its pressure prevents gravity from collapsing white dwarf stars.

Heisenberg's uncertainty principle also underlies one of the most bizarre aspects of quantum theory. The vacuum of space-time is by no means "nothing." It is a foaming sea of constantly bubbling particles that flash into existence for fleeting microseconds only to be absorbed back into the mother sea from which they momentarily borrowed a tiny bit of energy.

Time and energy, like position and momentum, also are subject to the uncertainty relation. If the time during which energy is measured is known exactly, the amount of energy becomes uncertain. The shorter the time interval, the greater the uncertainty. When the interval is short enough, it allows energy to appear from nowhere in the vacuum of space provided it vanishes fast enough back into the mother sea to preserve the vacuum's overall zero energy.

This energy that randomly pops out of empty space takes the form of particle-antiparticle pairs that mutually annihilate. This happens much too fast to be observed, but can be inferred from other phenomena. On the average, the pairs exist for about 0.00000 00000 00000 00000 1 of a second, with a maximum distance between them of about 0.00000 00001 of a centimeter.

Every type of particle known is believed to emerge briefly from the churning vacuum, the lighter particles such as electrons and photons more frequently than heavier particles such as protons, neutrons, and quarks. It is theoretically possible that a macro object such as an apple might be created for an instant, but the probability of this is far too low to allow it. These ghostly particles are called "virtual" to distinguish them from their "real" forms that persist in time.

The fluctuation of particle pairs occurs within all quantum fields, but mainly in electromagnetic and gravity fields. The gravity field presumably generates the conjectured, but so far undetected, massless graviton-antigraviton pairs. The energy-time uncertainty also allows every real particle to be surrounded by a cloud of virtual particles of all varieties that are constantly being emitted and absorbed by the seething vacuum that surrounds the real particle.

Here is how Heinz Pagels, in *The Cosmic Code*, describes the vacuum of space:

> Space looks empty only because this great creation and destruction of all the quanta takes place over such short times and distances. Over long distances the vacuum appears placid and smooth—like the ocean which appears quite smooth when we fly high above it in a jet airplane. But at the surface of the ocean, close up to it in a small boat, the sea can be high and fluctuating with great waves. Similarly, the vacuum fluctuates with the creation and destruction of quanta if we look closely at it.

In 1973 physicist Edward Tryon made a startling proposal in a two-page paper titled "Is the Universe a Vacuum Fluctuation?" (*Nature*, Vol. 246, pp. 396–97). He suggested that a vacuum fluctuation may have triggered the big bang! As he put it, "Our universe is simply one of those things which happen from time to time." This implies that space and time existed before the bang. Other physicists have since proposed slightly different ways a quantum fluctuation in a vacuum devoid of space and time could create a runaway universe, though how something could fluctuate without space and time is unclear. Of course our universe could not emerge from absolutely nothing. There would have to be quantum fields to fluctuate, leaving unanswered the ultimate question of where quantum fields and their laws came from, or why there is something rather than nothing.

In recent years a number of physicists have wondered if it possible to somehow tap the ZPE of the fidgety vacuum. Most physicists consider this hopeless. At the end of the PBS's *Scientific American Frontiers* show, Steven Weinberg, the Nobel prize-winning physicist now at the University of Texas, in Austin, pointed out how weak this energy is. In the entire universe, he said, it is enormous, but the total amount of ZPE available in a space the size of the earth is about the same as the energy obtainable from a gallon of gasoline. Trapping this energy of course means that a machine must be able to snatch energy from the virtual particles before they disappear. No one has any good idea of how this could be done, and even if it could be, the energy available would be insignificant.

British physicist Paul Davies, in *Other Worlds* (1980), had this to say in Chapter 4: "There is no question . . . of running a machine on borrowed energy. . . . The energy output from an electric light emitted in one second can only be borrowed via the uncertainty principle for a billion-billion-billion-billionth of a second. Put another way, the quantum loan mechanism can only enhance the output from an electric light by one part in one followed by 36 zeros."

Puthoff disagrees. Like other mavericks working on ZPE machines, he sees the opposition of mainstream physicists to such research as the irrational knee jerks of an elite. "Most working physicists are not really scientists," he told an interviewer in 1990. "They are number crunchers, computer operators, lab technicians. It's not all their fault. It's driven largely by the military-industrial complex."[2] In many technical papers and several popularly written articles he has defended the possibility of obtaining unlimited energy from empty space. In *Scientific American*'s PBS broadcast he predicted that just as this century is known as the nuclear age, so will the next millennium be known as the zero-point energy age.

Puthoff sees himself as a lonely pioneer whose research he is confident will usher in this awesome new age. In his paper "Quantum Fluctuations of Empty Space: A New Rosetta Stone of Physics?" (a speech reprinted in *Frontier Perspectives*, Vol. 2, Fall/Winter 1991, 19–23, 43) he predicts that tapping ZPE will revolutionize history. "Only the

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continued on page 60

Alien Abductions as Sleep-Related Phenomena

In his latest book, *The Communion Letters* (1997), self-claimed alien abductee Whitley Strieber, assisted by his wife Ann, offers a selection of letters Strieber has received in response to his various alien-abduction books, particularly the bestselling *Communion: A True Story* (1987). A careful analysis of these letters is illuminating.

The sixty-seven narratives making up *The Communion Letters* represent, the Striebers claim, what "could conceivably be the first true communication from another world that has ever been recorded." Selected from nearly two hundred thousand letters, the collection, they assert, "will put certain shibboleths to rest forever," namely that the phenomenon is limited to a few people, that they are alone when abducted, that the events are recalled only under hypnosis, and that the abductees are attention-seekers (Strieber and Strieber 1997, 3–4).

Be that as it may, the accounts are really surprising for their prevalence of simple, well-understood, sleep-related phenomena. Most, for example, include one or more experiences that can easily be attributed to some type of dream.

Clearly the dominant phenomenon in the accounts—albeit one little known to the public—is the common "waking dream." This occurs when the subject is in the twilight state between waking and sleeping, and combines features of both. Such dreams typically include perception of bright lights or other bizarre imagery, such as apparitions of strange creatures. Auditory hallucinations are also possible. Waking dreams are termed *hypnagogic* hallucinations if the subject is going to sleep, or *hypnopompic* if he or she is awakened (Drever 1971, 125). Frequently the latter is accompanied by what is known as sleep paralysis, an inability to move caused by the body remaining in the sleep mode.

In the middle ages, waking dreams were often responsible for reports of demons (incubuses and succubuses) which, due to sleep paralysis, sometimes seemed to be sitting on the percipient's chest or lying atop his or her body. At other times, waking dreams have been common sources of "ghosts," "angels," and other imagined entities (Nickell 1995). Now, as the collection of letters to the Striebers demonstrates, these experiences are producing "aliens" and related imagery. Some forty-two of the sixty-seven narratives include one or more apparent waking dreams.

For example, one man wrote: "I'd wake up and my heart would be pounding as if I was frightened. I'd also see two white lights, one slightly higher than the other, flying or floating across my room in a descending motion toward the floor. . . . I would have what I called a 'dream,' although I felt that I was totally awake because I could move my eyes. My body would be completely paralyzed. I couldn't yell or scream, but wanted to" (p. 87). Another man reported: "At night, after my parents would put me to bed, I'd often see small, very white round faces with huge black eyes staring in at me from outside my bedroom window. Sometimes it was only one, but often it was several. . . . I saw them several nights a week almost into my teens" (p. 37). Still another man wrote: "When I was twenty-three I woke up one night to find a little gray man on the other side of my room. He looked about four feet tall and had very large orange cat eyes. I later learned that this was my 'guardian'" (p. 135).

Although, as these accounts show, some of the "abductees" do not report paralysis, others describe that effect without imagery. For example, one writes: ". . . I woke up into one of the strangest experiences of my life. I was awake, could feel and could smell and think and reason, but I could not see. . . . I experimented with every part of my body to see if I could move; I couldn't. There was a flashlight a few inches from my head, but I couldn't make my arm respond to my mental commands" (p. 40).

Indeed, sleep paralysis accompanying a waking dream may well be a major factor in convincing some "abductees" they have been examined by aliens. Consider this woman's account:

> I often found myself being awakened in the deepest night by a feeling of someone touching me: pushing my stomach; poking my arms and legs; touching my head and neck; what felt

> like a breast exam and a heaviness across my chest, and someone holding my feet. This seemed to go on for three nights. On the last night, I vaguely saw, in my efficiently apartment, a "little man" running to and around my refrigerator. My door was always locked, as were the two windows.
>
> Then one night I woke up to find myself in a strange room, *strapped to a table*, with my feet up. I felt that my lower half was undressed. . . . On another later night, I woke up strapped to a table in a reclining position (emphasis added). (pp. 250–51)

Another phenomenon reported in *The Communion Letters* is the out-of-body experience (OBE). This may be associated with a waking dream, as in this woman's account: "When I was nineteen I had my first OBE. . . . I should say here that, to my knowledge, all my hundreds of OBEs throughout the years have been conscious ones, meaning that they've all occurred in the state just before sleep, where I am fully conscious and aware of the paralysis, the vibrations that occur, and of the actual separation. . . . On the night of March 15, 1989, I went to bed and fell asleep normally. Sometime during the night I awakened to find myself softly bumping against the ceiling, already separated from the physical. . . . I felt myself being turned around. I 'saw' a being standing in the middle of the open room, approximately fifteen feet away. A telepathic voice asked if I was afraid." The woman goes on to describe a stereotypical alien (pp. 73–74).

Such "telepathic" voices—which are often part of a waking dream—are, of course, the person's own. Even abduction guru David Jacobs admits that reports of telepathic communication with aliens may be nothing more than confabulation (the tendency of ordinary people to confuse fact with fantasy [Baker and Nickell 1992, 217]). Says Jacobs, "Abductees sometimes slip into a 'channeling' mode—in which the abductee 'hears' messages from his own mind and thinks they are coming from outside sources—and the researcher fails to catch it" (Jacobs 1998, 56).

No fewer than 18 letters in the Strieber collection describe one or more OBEs—or such related phenomena as "astral travel" or floating or flying dreams. The relationship between OBEs and sleep paralysis is demonstrated by a percipient who had "the strangest type of dream" up to three times a week. He would awaken to hear crackling noises followed by a loud boom, "at which point," he says, "I would immediately go into paralysis. Then I would slowly begin to float toward my ceiling, unable to move a limb" (p. 130).

In a few instances the "abductee" is not in bed when the (apparent) waking dream occurs. He or she may be watching television, riding in a car, or—as in the case of one woman—sitting with her child in a rocking chair: "We must have rocked for twenty minutes, and I was actually becoming drowsy. My eyes were closed. Then an odd thing happened: I got a vision of three 'grays' standing in front of the rocking chair. It was as if I could see through my eyelids" (p. 17). The salient point is that the waking dream may occur virtually anywhere—as long as the person is in the state between waking and sleeping.

In fact, the subject may have similar experiences to those in waking dreams when he or she is simply exhausted—i.e., suffering from mental or physical fatigue (Baker 1992, 273). Such might be the explanation for eight reports, like that of one woman who told the Striebers: "I was going home from work [i.e., presumably tired], and in the middle of the Seventh Avenue subway rush hour crowd I saw a little man about four feet tall. He had a huge head, but it was the quality of his skin that first caught my attention. It didn't look like human skin, but more like plastic or rubber. I knew he wasn't human. I tried to follow him with my eyes, but he quickly got lost in the crowd. No one else seemed to notice. This disturbed me; I thought I was seeing things" (emphasis added). This person also had "recurrent dreams" of "spaceships hovering over the Hudson River and the Palisades. These dreams were always very vivid and powerful" (p. 207).

Other accounts in *The Communion Letters* clearly indicate ordinary dreaming, nightmares, "lucid" dreams (vivid, controllable dreams that occur when one is fully asleep), and the like—in all, reports by some twenty-two letter writers. At least four reports almost certainly involved somnambulism (walking or performing other activities while asleep). The letters also reported "near-death experiences" (two writers) and hypnosis (another two instances). A majority of the narratives contain more than one phenomenon, but in all at least fifty-nine of the sixty-seven letters consist of one or more instances of probable sleep-related phenomena such as discussed thus far. (In addition there were such reported conditions as migraines, panic attacks, post-traumatic syndrome disorder, even schizophrenia—one example of each. As many as eight people had a number of traits associated with what is termed "fantasy proneness.")

Lest it be thought that the eight remaining letters are reports of genuine abductions, I consider three to be extremely doubtful, raising more questions than they answer and even containing internal inconsistencies or outright contradictions. Of the other five, two are reports of nothing more than unexplained knocking sounds and three consist merely of rather typical UFO sightings (two possibly weather balloons), with one writer specifically stating, "I do not believe that an abductee experience is in my recent history" (p. 180).

Strieber's correspondents have, of course, read his books, *Communion*, *Transformation*, and *Breakthrough*, and they clearly have been influenced by them. Indeed, one writer's experience with "the visitors"—an alleged abduction—"happened the night after I finished your last book, *Breakthrough*" (p. 144). Another, who has "had plenty of UFO experiences," wrote: "I couldn't get the picture of the being on the *Communion* cover out of my head" (pp. 134–135). A woman stated: "When I saw the cover of *Communion* I felt compelled to buy it. When I began to read

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it, I felt nauseated, burst into tears, was shaking, and was elated. Most books don't elicit this reaction in me as I read the first few chapters" (p. 148). A policeman wrote: "Frankly the books scare the hell out of me. I did not sleep well for weeks following *Communion.* I again feel very restless after reading *Breakthrough.* I cannot explain this. Tell me I am imagining things" (p. 122). Obviously such correspondents are quite impressionable, to say the least.

Many who wrote did so in response to similar events reported by Strieber. Significantly, Strieber's own abduction claims began with his having a waking dream! According to psychologist Robert A. Baker:

> In Strieber's *Communion* is a classic, textbook description of a hypnopompic hallucination, complete with the awakening from a sound sleep, the strong sense of reality and of being awake, the paralysis (due to the fact that the body's neural circuits keep our muscles relaxed and help preserve our sleep), and the encounter with strange beings. Following the encounter, instead of jumping out of bed and going in search of the strangers he has seen, Strieber typically goes back to sleep. He even reports that the burglar alarm was still working—proof again that the intruders were mental rather than physical. Strieber also reports an occasion when he awakes and believes that the roof of his house in on fire and that the aliens are threatening his family. Yet his only response to this was to go peacefully back to sleep. Again, clear evidence of a hypnopompic dream. Strieber, of course, is convinced of the reality of these experiences. This too is expected. If he was not convinced of their reality, then the experience would not be hypnopompic or hallucinatory. (Baker 1987, 157)

Why some people's waking dreams relate to extraterrestrials and others to different entities depends on the person's expectations, which in turn are influenced by various cultural and psychological factors. Thus given different contexts, a waking dream involving a shadowy image and sleep paralysis may be variously reported: someone sleeping in a "haunted" manor house describes a ghostly figure and is "paralyzed with fear," while another, undergoing a religious transformation, perceives an angel and is "transfixed with awe," while yet another, having read *Communion,* sees an extraterrestrial being and feels "strapped to an examining table."

Many of the communicants in *The Communion Letters* even show a willingness to reinterpret their original experiences in light of what they have since read in Strieber's books. This transformational tendency seems quite strong. One woman, for example, who had "imaginary playmates" as a child in the 1940s now reports to Strieber: "The beings that I saw looked like the ones in your book" (p. 93). Another, who saw an entity during an obvious waking dream, reported that her first reaction after reading *Communion* "was to wonder if, in fact, what I recalled was all that had taken place the night of my experience" (p. 119). Still another, a man who would sometimes "wake up with little gray people around me," admitted: "I never associated them with UFOs. As soon as I'd open my eyes, they'd all run away, right through the walls!" (p. 134). Now that he has read *Communion* he believes he was "manipulated" into buying it. This same person also had a "memory" which "came in the form of a vivid dream" and that involved himself, Strieber, and the aliens. "When I awoke," he reported, "I felt as if you had been looking at me intently" (p. 136). In *The Threat,* David Jacobs even tries to convince his readers they should revise their experiences. He suggests their "ghost" or "guardian angel" experience should be considered possible alien encounters, and that they may therefore be "unaware abductees" (Jacobs 1998, 120).

It is distressing that such simple phenomena as waking dreams, sleep paralysis, and out-of-body hallucinations can be transformed into "close encounters." The mechanism is what psychologists call *contagion*—the spreading of an idea, behavior, etc. from person to person by means of suggestion (Baker and Nickell 1992, 101). Examples of contagion are the Salem witch hysteria of 1692–1693, the spiritualist craze of the nineteenth century, the UFO furor that began in 1947, and, of course, its sequel, today's alien-encounter delusion, which is aided in dissemination by the mass media.

Perhaps we should not be surprised that those who are hyping belief in extraterrestrial abductions ignore or underestimate the psychological factors. Strieber, for example, is a fiction writer, and Budd Hopkins, who helped boost public interest with his 1981 book *Missing Time,* is an artist. One would think that history professor David Jacobs would profit from mistakes of the past and not help repeat them. Even more curious is the involvement of clinical psychologist Edith Fiore (1989) and psychiatrist John Mack (1994). But both confess they are less interested in the truth or falsity of a given claim than what the individual *believes* happened, with the resulting significance to therapy and, in the case of Mack, to "the larger culture." (Mack 1994, 382. See also Fiore 1989, 333–34; Jacobs 1998, 48–55.)

All of these abduction promoters have books to offer. Let the buyer beware.

Acknowledgments

As so often, I am grateful to psychologist Robert A. Baker for reading the manuscript and providing helpful suggestions.

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From Ark-eology to UFOlogy, from Ararat to Arizona

The world of Ark-eology—the determined search among certain creationists for the supposedly still-frozen remains of Noah's Ark on the slopes of Mt. Ararat in Turkey—is once again abuzz with excitement. (Every few years, excitement over the presumed imminent discovery of Noah's Ark reaches a fever pitch: see this column, Spring 1993).

According to a story published last November 18 in the *Washington Times*, "Former intelligence officials say soon-to-be-released U.S. spy photographs of the odd formation high on Turkey's Mount Ararat could reveal something far more explosive: the remnants of Noah's Ark. According to the story by Bill Gerz, 'High-level U.S. government interest in the search for Noah's Ark led to a study by the CIA's National Photographic Interpretation Center (NPIC) of the Ararat Anomaly back in the 1970s, and the Defense Intelligence Agency conducted a second, more recent analysis.'"

Dino Brugioni is a retired CIA photographic specialist who says he was directed two decades ago to study certain high-resolution photographs snapped by a U-2 spy plane at the end of a 3,000-mile reconnaissance flight from what was then the Soviet Union to Turkey. "We measured things, but none of them fell within the dimensions given in the Bible," he said. "If you didn't have the biblical dimensions in cubits, you could pick up those pictures and say they look like a ship. But when you measure it, it doesn't come out right. . . . At no time did we say we saw an ark."

Other Ark-ologists, flushed with the exciting idea that their Fundamentalist teachings about a global flood are about to be confirmed, are making even bolder claims. Robert G. Corbin Jr.'s website (www.noahsarksearch.com/anomaly.html) contains many photos of the supposed "Ararat anomaly," which to the untrained eye looks very much like an outcropping of rock. Porcher Taylor *III* goes even further to talk about an "adjacent anomaly" that is suggested to be possibly the "remains of the keel of a ship." He continues, "A naval architect who reviewed this frame tells me, off-the-record, that the 'structure' reminds him of the skeletal remains of the keel [bottom spine] of a ship." What struck him was that the design appeared to be "relatively modern." If proved to be true, "this would shatter the prevailing Biblical archaeological view that Noah's Ark was an unsophisticated, rectangular barge."

Gerz's article promises that "over the next few months, the CIA will begin releasing more detailed high-resolution spy pictures of the distinctive formation near the summit." The world waits for the exciting news.

* * *

The much-hyped Arizona UFOs of last year have now entered the arena of politics. The Associated Press reported on January 18 that Frances Emma Barwood, a former Phoenix city councilwoman and vice-mayor, is running for Arizona secretary of state on a platform that includes, among other things, the demand for an explanation of any UFOs seen over Arizona. To show she means business, when she kicked off her campaign she was surrounded by UFO researchers and lobbyists. But not everyone is impressed. Attorney General Grant Woods, discussing her candidacy on the radio, played the theme from Woody Woodpecker, and a political cartoon suggests that Outer Space might be found between her ears. We'll see how well the issue plays with the voters.

Unfortunately for some UFOlogists, even Thomas R. Taylor, state director of MUFON for Arizona, agrees that the video we've seen many times of bright lights in a row was in fact a flare drop occurring at 9:57 P.M. on March 13 from eight A-10 aircraft of the 175th Maryland Air National Guard on a training mission over the Barry Goldwater Gunnery Range (see http://www.idowebpages.com/mu.article.html). The planes were dropping high-intensity flares from 15,000 feet, which fall slowly by parachute, illuminating the target area. (Barwood disagrees, saying that the explanation is just too convenient.)

Robert Sheaffer's World Wide Web page for UFOs and other skeptical subjects is at http://debunker.com/~sheafferufo.html.

MUFON folks wish that people would stop paying so much attention to that non-UFO, widely seen at approximately 10 P.M. local time, and pay more attention to the real UFOs that were flying in V-formation at about 8:30 P.M. However, several amateur astronomers and pilots did see these, and quite unambiguously identified them as aircraft in formation (see http://www.phoenixnewtimes.com/1996/current/news2.html). Very likely, this was a training mission in night refueling.

But perhaps the most significant recent nondevelopment in UFOlogy involves the supposedly "haunted ranch" in Utah that was purchased by Las Vegas investor Robert Bigelow for his National Institute for Discovery Sciences (see http://www.nids.com). James Moseley reports in the Nov. 15 issue of his newsletter *Saucer Smear* (http://www.mcs.nett-kvg/smear) that no sooner was the ranch purchased by these investigators eager to confront the paranormal, than all of the unearthly manifestations—UFO sightings, interdimensional portals, even "dog-killing balls of light"—suddenly ceased. Somehow we're not surprised. □

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IAN C. MAIONE

Testing *Put to the Test*

Programs on major TV networks *often present a misleading account* of the scientific status of paranormal claims by failing to fairly present the skeptical side of the story. How misleading is a program that falsely implies that it is *testing* a paranormal claim in a scientific manner, yet appears on a channel devoted to science programming?

Such a program appeared on The Learning Channel, on January 27, 1998, entitled *Science Frontiers: Put to the Test. Science Frontiers* is a regular science segment on TLC. *Put to the Test* purports to examine claims of the paranormal in an objective manner, by conducting on-camera tests to allow the viewers to evaluate each claim for themselves. The concept provides an excellent opportunity not only to inform viewers about the status of specific claims, but to illustrate how scientific investigation works. Unfortunately, on January 27 *Put to the Test* instead did the opposite.

The program presented the case of George Anderson, who purports to provide closure to grieving relatives by "communicating with the dead." Before establishing that it exists at all, the segment immediately attempted to "explain" Anderson's ability in a way that was anything but scientific. Anderson described his ability in this way: "I feel this whirring sound as it begins, as if somebody hits the switch or something hits the switch with some type of electricity or energy." Such statements have almost no real content at all, *but are clearly intended to impress the* viewer with terms such as "energy" and "electricity." In addition, Anderson stated that he first noticed his ability after a bout of chicken pox encephalitis; the obvious implication is that the illness some how "caused" his ability to appear. Why? How? Is there any even conceivable biological or physical process that could explain this? Have any other sufferers of this illness ever exhibited the same ability? None of these questions were asked. Additional "theories" were that he is using a "greater percentage" of his brain and that part of his brain is "dead" from the illness. Both *are nonexplanations. Furthermore, the* show failed to explicitly present any hypotheses that did not start with the assumption that Anderson has genuine psychic powers. Any magician could have been consulted to explain the technique of "cold reading," but the producers of *Put to the Test* either did not know this or chose not to do so.

In the next part of the program, Anderson was monitored by EEG during a session to test his claim that he enters some type of altered mental state. This was a good idea, but unfortunately *Put to the Test* failed to provide a genuine controlled experiment. The reading involved a woman, Nancy Ross, who lost her son in an accidental fireworks explosion. Ms. Ross was seated *in clear view of Anderson.* Although his eyes appear to be shut, no effort is made to *ensure that he cannot see her. Indeed,* throughout the reading, it is clear that Ross is reacting with body language and facial expression to his statements. *Put to the Test* failed to provide a controlled experiment, that would ensure that Anderson could neither see, hear, nor interact with Ross during the reading. Instead, Anderson was allowed to ask her questions, and the test failed to eliminate the possibility that Anderson could use cold reading techniques to get the results obtained. *Put to the Test* never asked the obvious question: Why, if Anderson is genuinely communicating with the dead, does he need to ask questions *at all? Indeed, a representative* sample of the session is very edifying:

Anderson starts very generally, saying early on "the young man passes tragically, correct?" What death is *not* tragic? Then, Anderson states:

". . . he's a little on the wild side. . . . He seems to be telling me he's cooled down over there."

Once confirming feedback is given, the next statement is more specific:

". . . his passing is careless, though, yes?" Ms. Ross replies "yes." This is an easy guess from the previous information, yet "careless" could still mean anything.

". . . he states that it's an accident, but it's a careless accident." Once it is known that the death was careless, it's a

Ian Maione writes from Toronto.

simple logical deduction to conclude it was accidental!

". . . something definitely affected his heart area." This is another standard trick, since any death, by definition, affects the heart in some way. Once again Ross provides positive feedback.

"But it's not like he has a heart attack; it's a massive injury to the chest." The fact that it's not a heart attack is now logically deducible from the fact that the death was accidental yet involved the heart. The most obvious guess now is chest trauma!

Anderson did not state a single specific, verifiable detail, but the hosts did not remind the viewer of this. Furthermore, a doctor then stated that according to the EEG, *"His brainwaves were identical to those I've recorded from literally thousands of adults during waking states."* Although this is devastating to Anderson's claims, there was no mention of its implications.

In the next part of the segment, *Put to the Test* presented a second reading, involving two parents, Dolores and Gregory Bouchard, and their daughter, whose sister Kathy was killed in a hiking accident. This reading occurred in Anderson's house, which is as uncontrolled an environment as is possible, and this time he did not even attempt to keep his eyes closed. However, during this reading, Anderson was shown making a serious mistake; although Dolores Bouchard is incapable of having children (both of her children are adopted) Anderson guessed that she has lost more than one child. After being told that this is not the case, Anderson guessed a miscarriage. *Put to the Test* again failed to ask, *why, if Anderson was genuinely talking to the Bouchard's dead daughter, did he not know this is impossible?* At this point, it was briefly mentioned that skeptics charge that Anderson is fishing for information. However, not one skeptic was given a single second of air time to explain this in any detail or demonstrate how it works. Furthermore, no attention was drawn to the clear evidence on the tape that strongly supports this interpretation. Attention was then immediately drawn away from the skeptical viewpoint by the hosts, who state that Anderson "seemed to demonstrate an extraordinary ability to know things he couldn't possibly know." Later, Anderson seemed to make a significant hit; he correctly guessed the girl's name and her unusual diminutive "Ka."

Immediately after the reading the family was asked for their reaction, and they express belief in Anderson's ability. However the family members are understandably not objective observers, especially since Mrs. Bouchard explicitly stated in an interview that she believes in an afterlife, and that she wants to believe her daughter is "in a better place." The segment did not tell the viewer why these types of considerations can bias an observer. It was strongly implied that the knowledge of the diminutive was important, but the EEG results, the evidence supporting an interpretation of cold reading, and the obviously wrong statements made were not mentioned. It was reported that 131 subjects were touched on during the reading, and that ninety-nine were "right on the money" *as far as the family were concerned.* No mention was made of the fact that the vagueness of many of the statements made the judgment of "right on the money" problematic at best, nor was the need for independent, objective interpretation of the data explained. The need for controlled experiments (in which a professional magician might attempt to duplicate Anderson's performance, for example) was not mentioned. That Anderson was "correct" approximately 75 percent of the time is stated, but its significance was not discussed. If Anderson speaks directly to the dead, why wasn't it 100 percent? What would you expect by chance under similar circumstances? *Put to the Test* never tells us.

A program that misrepresents the evidence for a particular claim is bad, but one that misrepresents the scientific method in doing so is many times worse. Because of the poor state of science education, many people don't know *why* such evidence is inadequate. *Put to the Test* inaccurately portrayed scientific explanation, how to spin multiple hypotheses and decide between them, how to design a controlled experiment, and how to interpret experimental results. There is no better way to assure that people can't "decide for themselves." This illustrates that skeptics must be vigilant in scrutinizing even programs that appear on a channel like TLC, under a title like *Science Frontiers.* □

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Abduction by Aliens or Sleep Paralysis?

A Roper Poll claimed that nearly four million Americans have had certain "indicator" experiences and therefore had probably been abducted by aliens. But a study of 126 school children and 224 undergraduates shows knowledge of aliens is related more to watching television than to having the relevant experiences.

SUSAN BLACKMORE

If you believe one set of claims, nearly four million Americans have been abducted by aliens. This figure has been widely publicized and is often assumed to mean that millions of people have been visited by members of an alien species and, in some cases, physically taken from their beds, cars, or homes to an alien craft or planet.

Personal accounts of abduction by aliens have increased since the publication of Budd Hopkins's books *Missing Time* (1981) and *Intruders* (1987) and Whitley Strieber's *Communion* (1987). There is considerable variation among the accounts, but many fit a common pattern. Wright (1994) summarized 317 transcripts of hypnosis sessions and interviews from 95 separate cases and concluded, "Numerous entity types have been visiting our planet with some regularity" (Part 2, p. 6). However, the "gray" is clearly the most common alien and

over the years a typical account has emerged (see, e.g., Mack 1994; Schnabel 1994; Thompson 1993).

The experience begins most often when the person is at home in bed (Wright 1994) and most often at night (Spanos, Cross, Dickson, and DuBreuil 1993), though sometimes abductions occur from a car or outdoors. There is an intense blue or white light, a buzzing or humming sound, anxiety or fear, and the sense of an unexplained presence. A craft with flashing lights is seen and the person is transported or "floated" into it. Once inside the craft, the person may be subjected to various medical procedures, often involving the removal of eggs or sperm and the implantation of a small object in the nose or elsewhere. Communication with the aliens is usually by telepathy. The abductee feels helpless and is often restrained, or partially or completely paralyzed.

In a typical sleep paralysis episode, a person wakes up paralyzed, senses a presence in the room, feels fear or even terror, and may hear buzzing and humming noises or see strange lights.

The "gray" is about four feet high, with a slender body and neck, a large head, and huge, black, slanted, almond-shaped eyes. Grays usually have no hair and often only three fingers on each hand. Rarer aliens include green or blue types, the taller fair-haired Nordics, and human types who are sometimes seen working with the grays.

The aliens' purpose in abducting Earthlings varies from benign warnings of impending ecological catastrophe to a vast alien breeding program, necessitating the removal of eggs and sperm from humans in order to produce half-alien, half-human creatures. Some abductees claim to have seen fetuses in special jars, and some claim they were made to play with or care for the half-human children.

Occasionally, people claim to be snatched from public places, with witnesses, or even in groups. This provides the potential for independent corroboration, but physical evidence is extremely rare. A few examples of stained clothing have been brought back; and some of the implants have reportedly been removed from abductees' bodies, but they usually mysteriously disappear (Jacobs 1993).

Theories

How can we explain these experiences? Some abductees recall their experiences spontaneously, but some only "remember" in therapy, support groups, or under hypnosis. We know that memories can be changed and even completely created with hypnosis (Laurence, et al. 1986), peer pressure, and repeated questioning (Loftus 1993). Are "memories" of abduction created this way? Most of Wright's ninety-five abductees were hypnotized and/or interviewed many times. Hopkins is well known for his hypnotic techniques for eliciting abduction reports, and Mack also uses hypnosis. However, there are many reports of conscious recall of abduction without hypnosis or multiple interviews, and the significance of the role of false memory is still not clear.

Another theory is that abductees are mentally ill. This receives little or no support from the literature. Bloecher, Clamar, and Hopkins (1985) found above-average intelligence and no signs of serious pathology among nine abductees, and Parnell (1988) found no evidence of psychopathology among 225 individuals who reported having seen a UFO (although not having been abducted). Most recently, Spanos et al. (1993) compared forty-nine UFO reporters with two control groups and found they were no less intelligent, no more fantasy prone, and no more hypnotizable than the controls. Nor did they show more signs of psychopathology. They did, however, believe more strongly in alien visitations, suggesting that such beliefs allow people to shape ambiguous information, diffuse physical sensations, and vivid imaginings into realistic alien encounters.

Temporal lobe lability has also been implicated. People with relatively labile temporal lobes are more prone to fantasy, and more likely to report mystical and out-of-body experiences, visions, and psychic experiences (Persinger and Makarec 1987). However, Spanos et al. found no difference in a temporal lobe lability scale between their UFO reporters and control groups. Cox (1995) compared a group of twelve British abductees with both a matched control group and a student control group and, again, found no differences on the temporal lobe lability scale. Like Spanos's subjects, the abductees were more often believers in alien visitations than were the controls.

A final theory is that abductions are elaborations of sleep paralysis, in which a person is apparently able to hear and see and feels perfectly awake, but cannot move. The *International Classification of Sleep Disorders* (Thorpy 1990) reports that sleep paralysis is common among narcoleptics, in whom the paralysis usually occurs at sleep onset; is frequent in about 3 to 6 percent of the rest of the population; and occurs occasionally as "isolated sleep paralysis" in 40 to 50 percent. Other estimates for the incidence of isolated sleep paralysis include those from Japan (40 percent; Fukuda, et al. 1987), Nigeria (44 percent; Ohaeri 1992), Hong Kong (37 percent; Wing, Lee, and Chen 1994), Canada (21 percent; Spanos et al. 1995), Newfoundland (62 percent; Ness 1978), and England (46 percent; Rose and Blackmore 1996).

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The Sleep-Paralysis Experience

In a typical sleep-paralysis episode, a person wakes up paralyzed, senses a presence in the room, feels fear or even terror, and may hear buzzing and humming noises or see strange lights. A visible or invisible entity may even sit on their chest, shaking, strangling, or prodding them. Attempts to fight the paralysis are usually unsuccessful. It is reputedly more effective to relax or try to move just the eyes or a single finger or toe. Descriptions of sleep paralysis are given in many of the references already cited and in Hufford's (1982) classic work on the "Old Hag." I and a colleague are building up a case collection and have reported our preliminary findings (Blackmore and Rose 1996).

Sleep paralysis is thought to underlie common myths such as witch or hag riding in England (Davis 1996–1997), the Old Hag of Newfoundland (Hufford 1982), Kanashibari in Japan (Fukuda 1993), Kokma in St. Lucia (Dahlitz and Parkes 1993), and the Popobawa in Zanzibar (Nickell 1995), among others. Perhaps alien abduction is our modern sleep paralysis myth.

Spanos et al. (1993) have pointed out the similarities between abductions and sleep paralysis. The majority of the abduction experiences they studied occurred at night, and almost 60 percent of the "intense" reports were sleep related. Of the intense experiences, nearly a quarter involved symptoms similar to sleep paralysis.

Cox (1995) divided his twelve abductees into six daytime and six nighttime abductions and, even with such small groups, found that the nighttime abductees reported significantly more frequent sleep paralysis than either of the control groups.

I suggest that the best explanation for many abduction experiences is that they are elaborations of the experience of sleep paralysis.

Imagine the following scenario: A woman wakes in the night with a strong sense that someone or something is in the room. She tries to move but finds she is completely paralyzed except for her eyes. She sees strange lights, hears a buzzing or humming sound, and feels a vibration in the bed. If she knows about sleep paralysis, she will recognize it instantly, but most people do not. So what is she going to think? I suggest that, if she has watched TV programs about abductions or read about them, she may begin to think of aliens. And in this borderline sleep state, the imagined alien will seem extremely real. This alone may be enough to create the conviction of having been abducted. Hypnosis could make the memories of this real experience (but not real abduction) completely convincing.

The Roper Poll

The claim that 3.7 million Americans have been abducted was based on a Roper Poll conducted between July and September 1991 and published in 1992. The authors were Budd Hopkins, a painter and sculptor; David Jacobs, a historian; and Ron Westrum, a sociologist (Hopkins, Jacobs, and Westrum 1992). In its introduction John Mack, professor of psychiatry at Harvard Medical School, claimed that hundreds of thousands of American men, women, and children may have experienced UFO abductions and that many of them suffered from distress when mental health professionals tried to fit their experiences into familiar psychiatric categories. Clinicians, he said, should learn "to recognize the most common symptoms and indications in the patient or client's history that they are dealing with an abduction case" (8). These indications included seeing lights, waking up paralyzed with a sense of presence, and experiences of flying and missing time. The report was published privately and mailed to nearly one hundred thousand psychiatrists, psychologists, and other mental health professionals encouraging them to "be open to the possibility that something exists or is happening to their clients which, in our traditional Western framework, cannot or should not be" (8).

The Roper Organization provides a service for other questions to be tacked on to their own regular polls. In this case, 5,947 adults (a representative sample) were given a card listing eleven experiences and were asked to say whether each had happened to them more than twice, once or twice, or never. The experiences (and percentage of respondents reporting having had the experience at least once) included: seeing a ghost (11 percent), seeing and dreaming about UFOs (7 percent and 5 percent), and leaving the body (14 percent). Most important were the five "indicator experiences": 1) "Waking up paralyzed with a sense of a strange person or presence or something else in the room" (18 percent); 2) "Feeling that you were actually flying through the air although you didn't know why or how" (10 percent); 3) "Experiencing a period of time of an hour or more, in which you were apparently lost, but you could not remember why, or where you had been" (13 percent); 4) "Seeing unusual lights or balls of light in a room without knowing what was causing them, or where they came from" (8 percent); and 5) "Finding puzzling scars on your body and neither you nor anyone else remembering how you received them or where you got them" (8 percent).

I suggest that the best explanation for many abduction experiences is that they are elaborations of the experience of sleep paralysis.

The authors decided that "when a respondent answers 'yes' to at least four of these five indicator questions, there is a strong possibility that individual is a UFO abductee." The only justification given is that Hopkins and Jacobs worked with nearly five hundred abductees over a period of seventeen years. They noticed that many of their abductees reported

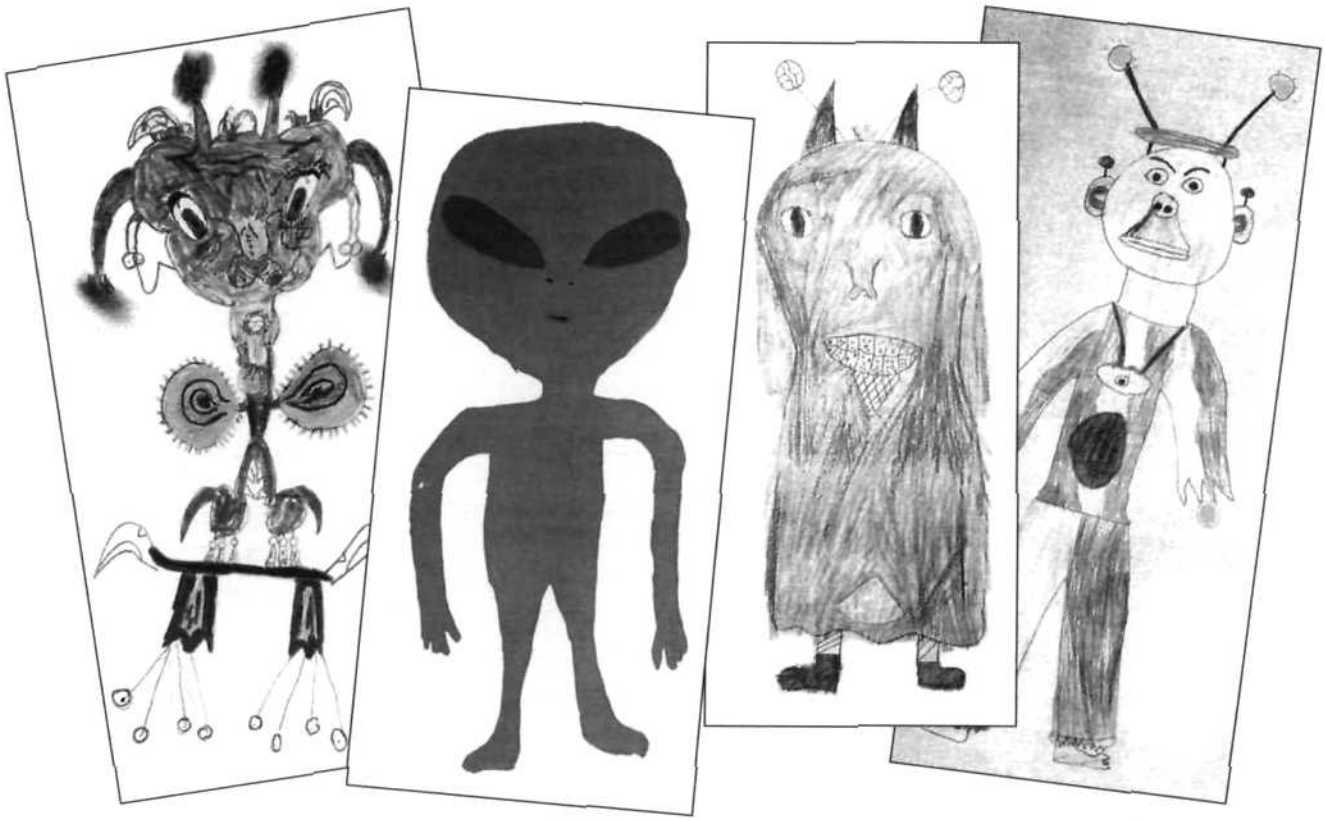

Figure 1. Examples of a "gray" and several other imagined aliens, drawn by children aged 8 to 13.

these experiences and jumped to the conclusion that people who have four or more of the experiences are likely to be abductees.

From there, the stunning conclusion of the Roper Poll was reached. Out of the 5,947 people interviewed, 119 (or 2 percent) had four or five of the indicators. Since the population represented by the sample was 185 million, the total number was 3.7 million—hence the conclusion that nearly four million Americans have been abducted by aliens.

Why did they not simply ask a question like, "Have you ever been abducted by aliens?"? They argue that this would not reveal the true extent of abduction experiences since many people only remember them after therapy or hypnosis. If abductions really occur, this argument may be valid. However, the strategy used in the Roper Poll does not solve the problem.

With some exceptions,[1] many scientists have chosen to ignore the poll because it is so obviously flawed. However, because its major claim has received such wide publicity, I decided a little further investigation was worthwhile.

Real Abductions or Sleep Paralysis?

The real issue raised by the Roper Poll is whether the 119 people who reported the indicator experiences had actually been abducted by aliens.

Since the sampling technique appears to be sound and the sample large, we can have confidence in the estimate of 2 percent claiming the experiences. The question is, Have these people really been abducted? The alternative is that they simply have had a number of interesting psychological experiences, the most obviously relevant being sleep paralysis. In this case, the main claim of the Roper Poll must be rejected. How do we find out?

I reasoned that people who have been abducted (whether they consciously recall it or not) should have a better knowledge of the appearance and behavior of aliens than people who have not. This leads to two simple hypotheses.

The Roper Poll assumes that people who have had the indicator experiences have probably been abducted. If this assumption is correct, people who report the indicator experiences should have a better knowledge of what aliens are supposed to look like and what happens during an abduction than people who do not report indicator experiences. If the assumption is not correct, then their knowledge should be no greater than anyone else's—indeed, knowledge of aliens should relate more closely to reading and television-watching habits than to having the indicator experiences if abductions do not really occur.

I decided to test this using both adults and children here in Bristol. It might be argued that genuine abductees wouldn't be able to remember the relevant details so I needed to use a situation that would encourage recall. I decided to relax the subjects and tell them an abduction story, and then ask them to fill in missing details and draw the aliens they had seen in their imagination.

Method

Subjects were 126 school children aged 8 to 13 and 224 first-year undergraduates aged 18 and over. The children came from two schools in Bristol. They were tested in their classrooms in groups of 22 to 28. The first group of 22 children had a slightly different questionnaire from the other groups and, is therefore, excluded from some of the analyses. The adults were psychology and physiotherapy students at the University of the West of England tested in three large groups. The procedure for the children is described below. The procedure was slightly simplified and the story slightly modified for the adults.

I first spent about half an hour talking to the children about psychology and research so that they got used to me. I then asked them to relax—as much as they could in the classroom. Many laid their heads on the desks, some even lay down on the floor. I asked them to imagine they were in bed and being read a bedtime story. I suggested they try to visualize all the details of the story in their minds while I read it to them. I then read, slowly and clearly, a story called "Jackie and the Aliens," in which a girl is visited in bed at night by a strange alien who takes her into a spacecraft, examines her on a table, and brings her back unharmed to bed. The story includes such features as traveling down a corridor into a room, being laid on a table, seeing alien writing, and catching a glimpse of jars on shelves. However, precise details are not given.

At the end of the story, I asked the children to "wake up" slowly and to try to remember as much as they could of the details of the story. I then handed out the questionnaires. Each questionnaire contained five multiple-choice questions about the alien, the room, and table; and the children were asked to describe what was in the jars and to draw the alien writing. There were also six questions based on those in the Roper Poll: Have you ever seen a UFO? Have you ever seen a ghost ? Have you ever felt as though you left your body and could fly around without it (an out-of-body experience, or OBE)? Have you ever seen unusual lights or balls of light in a room without knowing what was causing them, or where they came from? Have you ever woken up paralyzed, that is, with the feeling that you could not move? And, Have you ever woken up with the sense that there was a strange person or presence or something else in the room? (Note that in the Roper Poll, the question about paralysis was compounded with the question of the sense of presence. Here, two separate questions were asked. Note also that the last four of these questions were based on the *indicator* questions from the Roper Poll.) The questions were slightly altered to make them suitable for young children, and I did not ask about scars or missing time. A question about false awakenings (dreaming you have woken up) was also included, and two questions about television-watching habits.

Finally, all groups except one of the adult groups were asked to draw pictures of the alien they had imagined in the story.

Experience	Adults	Kids
Ghosts	14%	33%
OBEs	35%	33%
UFOs	8%	28%
False Awakenings	83%	57%
Sleep Paralysis	46%	34%
Presence	68%	56%
Lights	17%	28%

Table 1. Results of two surveys, with percentage of people answering "Yes" for having had the experience indicated. See text for full wording of questions.

Results

Large numbers of both adults and children reported having had most of the experiences. The percentages are shown in Table 1.

For each person, an "alien score" from 0 to 6 was given for the number of "correct" answers to the questions about the alien (that is, answers that conformed to the popular stereotype), and another score for the number of Roper Poll indicator experiences reported (0–4).

For the children, the mean alien score was 0.95, and the mean number of experiences 1.51. There was no correlation between the two measures ($r_s = -0.03$, $n = 101$, $p = 0.78$). The drawings of aliens were roughly categorized by an independent judge into "grays" and "others" (for almost all drawings the category is obvious; see Figure 1). Twelve (12 percent) of the children drew grays and 87 did not. Not surprisingly, those who drew a gray also achieved higher alien scores ($t = 3.87$, 97 df, $p < 0.0001$), but they did not report more of the experiences ($t = 0.66$, 95 df, $p = 0.51$).

Those children who drew grays did not report watching more television. Nor was there a correlation between the amount of television watched and the alien score ($r_s = 0.002$, $n = 101$, $p = 0.98$). Oddly, there was a small positive correlation between the amount of television watched and the number of experiences reported ($r_s = 0.25$, $n = 101$, $p = 0.01$).

For the adults, mean alien score was 1.23 and mean number of experiences 1.64. Again, there was no correlation

between the two measures (r_s = 0.07, n = 213, p = 0.29). Seventeen of the adults drew grays, and 103 did not. Again those who drew a gray achieved higher alien scores (t = 6.11, 118 df, $p < 0.0001$) but did not report more experiences (t = 0.14, 115 df, p = 0.89).

Among the adults, those who drew grays *were* those who watched more television (U = 534, n = 100, 17, $p < 0.01$), and the amount of television watched correlated positively with the alien score (r_s = 0.20, n = 217, p = 0.003).

Discussion

These results provide no evidence that people who reported more of the indicator experiences had a better idea of what an alien should look like or what should happen during an abduction. If real gray aliens are abducting people from Earth, and the Roper Poll is correct in associating the indicator experiences with abduction, then we should expect such a relationship. Its absence in a relatively large sample casts doubt on these premises.

Among the adults (though not the children), there was a correlation between the amount of television they watched and their knowledge about aliens and abductions. This suggests that the popular stereotype is obtained more from television programs than from having been abducted by real aliens.

Our sample certainly included enough people who reported the indicator experiences. Although not all the indicator experiences were included, for the four questions that were used, the incidence was actually higher than that found by the Roper Poll. Presumably, therefore, many of my subjects would have been classified by Hopkins, Jacobs, and Westrum as having been abducted. The results suggest this conclusion would be quite unjustified.

These findings do not and cannot prove that no real abductions are occurring on this planet. What they do show is that knowledge of the appearance and behavior of abducting aliens depends more on how much television a person watches than on how many "indicator experiences" he or she has had. I conclude that the claim of the Roper Poll, that 3.7 million Americans have probably been abducted, is false.

Acknowledgment

I would like to thank the Perrott-Warrick Fund for financial assistance and Nick Rose for help with the analysis.

Note

1. For three earlier articles in the SKEPTICAL INQUIRER evaluating and strongly critiquing the interpretations of the Roper Poll, see Lloyd Stires, "3.7 Million Americans Kidnapped by Aliens?" 17 (2), Winter 1993; Philip J. Klass, "Additional Comments about the 'Unusual Personal Experiences Survey'," 17 (2), Winter 1993; and Robyn M. Dawes and Matthew Mulford, "Diagnoses of Alien Kidnappings That Result from Conjunction Effects in Memory," 18 (1), Fall 1993. All are reprinted in Kendrick Frazier, Barry Karr, and Joe Nickell, eds., *The UFO Invasion*, Prometheus Books, 1997.

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Before Roswell: The Meaning Behind the Crashed-UFO Myth

Stories about a crashed saucer in the New Mexico desert are part of a broader myth dating back to at least eighty-five years before Roswell. What makes this myth so appealing?

ROBERT E. BARTHOLOMEW

An alien spaceship crashes to Earth killing its occupants. Roswell, New Mexico, 1947? No, a remote Indian Ocean island, 1862. Another ship plunges from the sky above a small town in the southwestern United States, extinguishing the life of its extraterrestrial pilot. Roswell? No, Aurora, Texas, 1897. In July 1947, a flying saucer supposedly crashed in the desert near Roswell, New Mexico, killing or critically injuring its crew. U.S. military personnel are said to have sealed off the area, carted away the evidence, and engaged in a coverup. Yet, stories of crashed UFOs are not new. While dozens of crashed UFOs have been reported at sites around the world since 1947 (Friedman and Berliner 1992; Randle 1995; McGhee and Dickeson 1996), reports of crashed alien craft date back to at least the middle part of the last century.

History is a valuable tool in the skeptic's arsenal, as it

distances observers from events, allowing for a less emotional, more contextual perspective in evaluating incredible claims. For instance, between 1900 and 1950, humanlike aliens typically landed in saucers with protruding exhaust pipes and clumsy disembarking ladders, wore Buck Rogers–style space suits, carried pistol ray guns, and usually hailed from Mars. This caricature is laughable in comparison to present-day aliens, with large heads and bulbous eyes, who float from their ship and communicate telepathically. The same comparative historical approach can be applied fruitfully to crashed-saucer claims to show that they are part of a broader myth.

If there is any mystery surrounding accounts of crashed UFOs, its solution lies not in examining some secret military hangar, but in examining the human mind.

In a letter to the *Houston Post* of May 2, 1897, John Leander wrote that an elderly sailor from El Campo, Texas—identified only as "Mr. Oleson"—claimed to have been shipwrecked on a tiny uncharted Indian Ocean island in 1862. He said that during his ordeal, an immense airship sporting gigantic wings crashed into a rock cliff. Inside were the bodies of several twelve-foot-tall creatures with dark, bronze skin. "Their hair and beard were also long and as soft and silky as the hair of an infant." The surviving sailors lived inside the wrecked airship and eventually "summoned courage to drag the gigantic bodies to the cliff and tumble them over." After building a raft and being rescued by a passing Russian vessel, Oleson retained a ring from the thumb of one of the creatures as the only proof of the events. Two and a quarter inches in diameter, it "[was] made of a compound of metals unknown to any jeweler . . . and [was] set with two reddish stones." As luck would have it, by the time the vessel reached port, the remaining sailors died, leaving Oleson as the sole survivor.

This story bears an uncanny resemblance to Roswell: The account is a secondhand narrative of alien creatures in a space vessel crashing at a remote location. The craft was destroyed and foreign writing found inside. The alien bodies were disposed of and the debris lost. A piece of confirming evidence was retained in the form of an immense ring with unknown properties, but the witness failed to allow public scrutiny. It is important to remember that our interest in such accounts is in their narrative content and not their truth or falsity per se.

During a wave of phantom airship sightings in the United States between 1896 and 1897 (Bartholomew 1990), there were several crashed-UFO claims. On the night of December 3, 1896, a wrecked airship was found in the gully of a cow pasture in a San Francisco suburb, after dairy farmers heard a loud bang followed by cries for help. Rushing to the scene, they found two dazed occupants staggering near a forty-foot-long cone-shaped tube of galvanized iron with broken wings and propellers. After causing a local sensation, and under cross-examination by those inspecting the "wreckage," the alleged pilot, J. D. deGear of 538 Fulton Street, confessed that the "ship" had been pulled to the hilltop on a wagon and pushed over (*San Francisco Chronicle*, December 4, 1896, p. 5). The spot was chosen for its proximity to a nearby saloon, which enjoyed a brisk business during the spectacle.

On the night of April 4, 1897, an airship supposedly crashed on the J. D. Sims farm near Bethany, Missouri, killing its pilot (*St. Joseph Daily Herald*, April 6, 1897, p. 5). Within a week, a flying machine reportedly plunged into a reservoir near Rhodes, Iowa (*Iowa State Register*, April 13, 1897, p. 1). No debris was ever found. On April 16, another vessel allegedly crash-landed outside Waterloo, Iowa (*Cedar Rapids Evening Gazette*, April 16, 1897, p. 1). In Tennessee, it was rumored that a craft had plunged to Earth in the middle of the night, sinking without a trace into the Sycamore Creek (*Nashville Banner*, April 17, 1897, p. 1).

Finally, there was the Aurora, Texas, hoax where a craft carrying what appeared to be a Martian allegedly crashed, with its pilot supposedly buried nearby (*Dallas Morning News*, April 19, 1897, p. 5). In *UFOs—Explained*, Philip J. Klass demonstrated that this was undoubtedly a hoax. Yet scores of UFO researchers have traveled and continue to travel to the community of Aurora, armed with cameras, Geiger counters, metal detectors, pickaxes, and shovels in hopes of locating the purported grave of the unfortunate alien.

It is also notable that there were theories of government coverups as well during the airship wave. The *Galveston Daily News* of April 29, 1897 (p. 10), argued that airship reports were secret U.S. government experiments, noting: "A profound secrecy has been maintained as to what has been accomplished, even army officers themselves only getting vague inklings of what is going on." There were also claims of airships being constructed and hidden in U.S. military installations, including Fort Sheridan near Chicago and Fort Logan in Colorado.

Pre-Roswell crashed-UFO claims have also occurred outside the United States. During 1909, a wave of phantom Zeppelin sightings spread across New Zealand amid rumors that Germany was planning an aerial attack. Within this context, a Zeppelin reportedly crashed at Waikaka, killing those

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BEFORE *ROSWELL*

continued on page 59

Case Closed:
Reflections on the 1997 Air Force Roswell Report

The Air Force "crash dummy" explanation of the Roswell "bodies" was not a desperate attempt to preserve the Roswell coverup, as UFO promoters would have us believe. Rather, clues that anthropomorphic test dummies may have been mistaken for "aliens" came from testimonies of the Roswell "alien body" witnesses themselves. The 1997 Air Force Case Closed *report, and new findings presented in this article, provide intriguing new speculations on the origin of various parts of the Roswell legend.*

BERNARD D. GILDENBERG and DAVID E. THOMAS

The second United States Air Force (USAF) Roswell report, *Case Closed* (MacAndrew 1997), was released in the summer of 1997 to considerable initial criticism. In fact, the report provides important new information and rational explanations for claims of so-called "alien bodies" and other elements of the Roswell myth.

The first USAF Roswell report (Weaver and MacAndrew 1995) focused on the actual events of 1947 and, in particular, on a June 1947 New York University balloon experiment (part of secret Project Mogul). The debris from that experiment is widely regarded as the best explanation for the "Roswell incident" (Thomas 1995).

After the 1995 report, however, the Air Force was criticized for failing to interview witnesses who claimed to have seen actual bodies of aliens, even though reports of alien bodies did not surface until decades after the original event and are not mentioned in any original accounts from 1947[1] (see Figure 1).

In response to the criticism, the USAF examined the alien-body stories. The result, *Roswell Report: Case Closed*, presents some new explanations for the alien bodies and many other elements of the myth built up around Roswell. The Air Force said that reports of bodies and mysterious autopsies could have had several sources, including high-altitude drops of anthropomorphic test "dummies" and one particularly severe military aircraft accident.

This article provides some new information and updated material obtained by coauthor B. D. Gildenberg. Gildenberg contributed to *Case Closed* and served as a meteorologist, engineer, and scientist for thirty years at the Holloman Air Force Base Balloon Branch in Alamogordo, New Mexico (1951–1981). Holloman AFB, which lies to the west of Roswell near the White Sands Missile Range, has been the prime skyhook (high-altitude) balloon launch site for classified Department of Defense programs. The Balloon Branch at Holloman is under the Air Force Cambridge Research Center, now known as Phillips Laboratory. Gildenberg was also involved in Project Bluebook, the Air Force's official investigation of unidentified flying objects (closed down in 1969).

Case Closed was introduced to the media and the public in a poorly executed Pentagon briefing on June 24, 1997. The high-ranking officer who gave the solo presentation had not been briefed on any of the material until the night before. And the report's knowledgeable and dedicated author, Captain James McAndrew, was nowhere to be seen. Slow initial distribution of the report was also a problem. But that did not stop some critics from rushing to judgment before they actually read the report. The UFO community was quick to sound the attack, with comments along the lines of "Dummies? The only dummies are the Air Force people who thought we'd buy this yarn!" The fact that the dummy drops did not occur until several years after the actual incident in 1947 was also widely criticized.

Air Force researchers, however, did not come up with "crash dummies" in a desperate attempt to preserve the Roswell coverup, as the UFO promoters would have us believe. Rather, the clues that dummies may have been mistaken for aliens came from the Roswell "alien body" witnesses themselves. And the time gap problems of the Air Force explanation pale in comparison to those of both witnesses and authors of popular books on Roswell.

The *Case Closed* report, and new findings presented in this article, provide some intriguing new speculations on the origins of various parts of the Roswell legend. The evidence that corroborates these explanations is not conclusive by any means, but it does lend support to a rational explanation of the Roswell mystery.

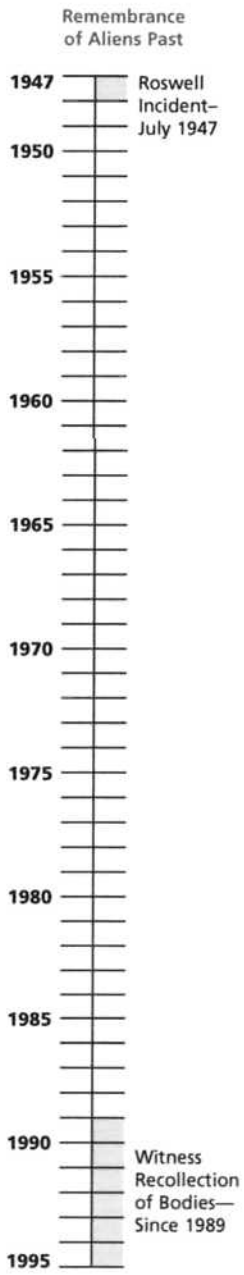

Figure 1. Forty-two year gap between the alleged crash and witnesses' first reports.

Clues from Witness Testimonies

Anthropomorphic dummy drops were performed in support of Air Force projects High Dive and Excelsior from 1954 to 1959. These projects culminated in Captain Joseph W. Kittinger's heroic world record parachute jump of 102,800 feet, on August 16, 1960, over White Sands Missile Range. The anthropomorphic dummies were flown by the Holloman AFB skyhook launch center, with remote command pilot Gildenberg steering the giant high-altitude skyhook balloons to their target destinations.

Over the course of the projects, a total of sixty-seven dummies were ejected from skyhook balloons at altitudes of up to twenty miles. A number of the dummies wound up in the vicinity of Roswell, Holloman's favorite downwind parking lot. Their conversion into part of the alien scenario was not dreamed up by the USAF researchers. The "witnesses" themselves, speaking out of the pages of the Roswell books, gave it away.

Here are some of the actual witness statements described in the Air Force report (MacAndrew 1997):

> "They were using dummies in those damned things. . . . It was either dummies or bodies or something laying there. . ." (Jim Ragsdale, p. 69).

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"I thought they were plastic dolls." "No hair . . . completely bald" (Gerald Anderson, pp. 69–70).

The Air Force report presented twenty-four witness statements that corroborated the dummy hypothesis to some degree. There are more witness statements in the popular Roswell literature that also lend support to the dummy explanation:

"They seemed to have no inertia, seemed to be like insects, maybe they were robots" (Third-hand from flight crew on scene, in Friedman and Berliner 1992, 53).

"It had that damned serene look on its face" (Steve Mackenzie, in Randle and Schmitt 1994, 12).

"The mouth apparently does not 'function as a means of communication or as an orifice for food ingestion,' and there are no teeth. . . . There was no hair on the head. . . . No perspiration or body odor" (UFO researcher Len Stringfield's confidential sources, in Randle and Schmitt 1994, 82).

"Looked like twins" (Leon Visse, in Fumoux 1981).

The Mechanics of Time Distortion

Critics of the Air Force report contend that the dummy drops were years too late to account for any part of the Roswell incident. The dummy drops ran from 1954 to 1959, seven to twelve years after the incident. But the real time gap is the period of decades between the supposed events of 1947 and the time when the "witnesses" finally spoke out. The problem was stated well by mortician Glenn Dennis in the Fall 1995 *Omni* magazine: ". . . [W]hen I talked to Friedman, that was the first time I tried to recall the whole experience in 40 years or more. I was remembering out loud and made some mistakes. It's hard to get such old memories straight." Difficulties with recollections of long-past events were also voiced in Randle and Schmitt 1994 ("This witness, however, told us a story . . . changing the date of the crash, the location of the bodies and craft, shape of the ship. . . ," p. 220), Friedman and Berliner 1992 ("There are certainly discrepancies, but after 43 years, memories begin to fade and swirl together. . . ," p. 122), and Good 1988 ("Since it's been 27 years, details like this are pretty foggy, and I may even be influenced by other descriptions I've seen or heard in the interim. . . .").

It appears that events strung out over a number of years in the distant past may indeed have been cobbled together to form the basis of a supposed single event. Figure 1 shows some of the balloon activities in the area (Mogul, High Dive and Excelsior, Vee balloon, Viking/Voyager) that certainly contributed to UFO sightings in general and might also have contributed to the Roswell phenomenon. There have been thousands of skyhook balloons launched from the Holloman AFB Ballon Branch over fifty years, with many far exceeding the famous Hindenberg zeppelin in size. The skyhooks, shining brilliantly in changing colors high in the stratosphere while the earth's surface was still in darkness, generated countless UFO reports. In 1972, this same Air Force group launched Project Viking nose cones from Roswell. These vehicles looked like classic UFOs and routinely generated many UFO sightings, despite preflight publicity.

Tethered mini-blimps were used to measure low-level launch winds at Roswell for the Viking project. Seen from a distance, they also resembled spaceships and probably were sketched as such in Randle and Schmitt 1994 (first photo insert).

As Figure 2 dramatically shows, the first body/autopsy descriptions did not appear until the late eighties—more than four decades after Roswell and more than three decades after the dummy drops. The time difference between July 1947 and

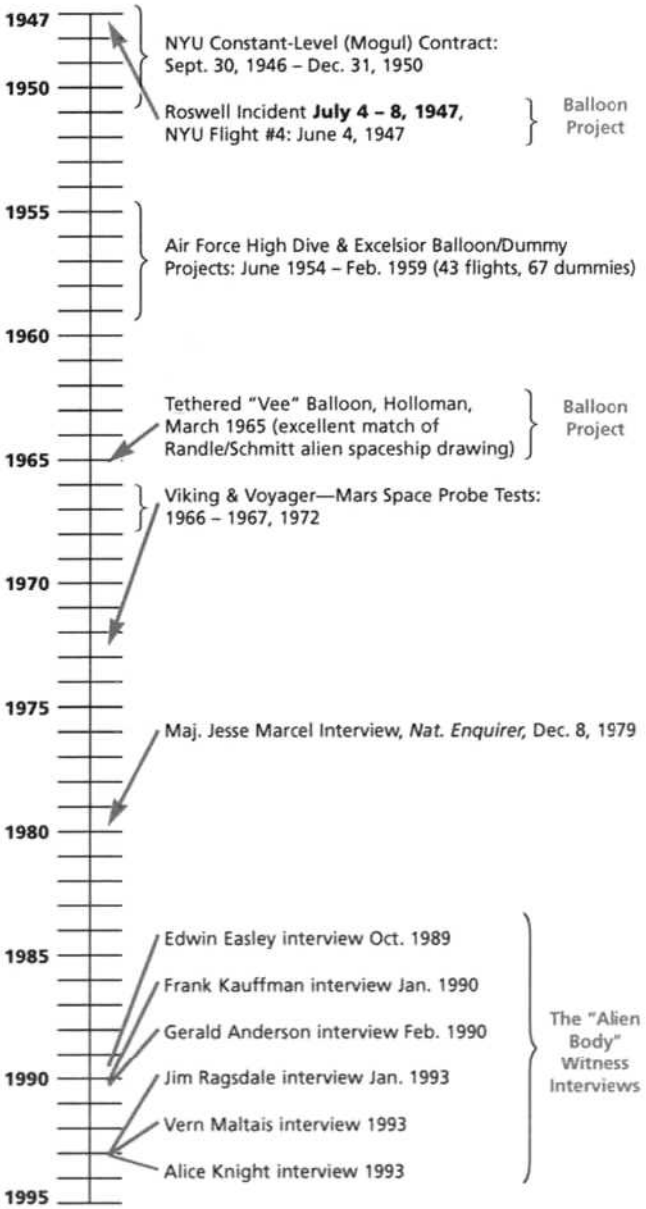
1947
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
NYU Constant-Level (Mogul) Contract: Sept. 30, 1946 – Dec. 31, 1950
Roswell Incident **July 4 – 8, 1947**, NYU Flight #4: June 4, 1947
Balloon Project
Air Force High Dive & Excelsior Balloon/Dummy Projects: June 1954 – Feb. 1959 (43 flights, 67 dummies)
Tethered "Vee" Balloon, Holloman, March 1965 (excellent match of Randle/Schmitt alien spaceship drawing)
Balloon Project
Viking & Voyager—Mars Space Probe Tests: 1966 – 1967, 1972
Maj. Jesse Marcel Interview, *Nat. Enquirer,* Dec. 8, 1979
Edwin Easley interview Oct. 1989
Frank Kauffman interview Jan. 1990
Gerald Anderson interview Feb. 1990
Jim Ragsdale interview Jan. 1993
Vern Maltais interview 1993
Alice Knight interview 1993
The "Alien Body" Witness Interviews

Figure 2. Balloon Project/Witness Interview Time Line

the dummy drops appears rather small in comparison to this time gap.

Major Jesse Marcel's interview about Roswell took place more than thirty years after 1947. Marcel, the central figure of the Roswell story (see Korff 1997), is often quoted as saying the debris was "not from earth." But a very revealing statement relevant to the whole Roswell mythos appears in an interview Marcel gave *National Enquirer* reporter Bob Pratt on December 8, 1979. When Pratt asked if the debris was a rocket or not, Marcel responded, "Oh, no. Unh. Unh. I've seen rockets. I've seen rockets sent up at the White Sands testing grounds. It definitely was not part of an aircraft, nor a missile or rocket" (Pflock 1994). In other words, whatever it was that Major Marcel saw on Brazel's ranch, it was not a spaceship. All too often, statements like these are ignored by those UFO authors who perpetuate the Roswell legend.

Glenn Dennis is the mortician who described a mysterious Roswell alien autopsy. The nurse who allegedly told him about it was described by Dennis as either missing or transferred to London. Three other principals in his story are: "Captain 'Slatts' Wilson"; a pediatrician who later moved to Farmington, New Mexico; and a big red-headed colonel. A summary of the Air Force findings on these individuals appears in Figure 3.

The only nurse at Roswell Army Air Field in 1947 who was transferred to London—1st Lt. Eileen Fanton—matched Dennis's recollections of the "missing nurse": single, small, short black hair, and dark eyes. There are two possible matches for Captain "Slatts" Wilson. The first is Captain "Slatts" Slattery (the only known Air Force nurse at Roswell ever to use the nickname Slatts), and the second is Captain Idabelle M. Wilson (the only Air Force nurse at Roswell named Wilson). Captain Slattery did not arrive at Roswell until August 1947 (after the July incident), and Captain Wilson served from 1956 to 1960. The only physician to relocate from Roswell to Farmington happened to be a pediatrician and, in fact, was the only pediatrician in the Farmington area for many years. But this man, Capt. Frank B. Nordstrom, served at Roswell from 1951 to 1953. The only tall, red-headed colonel at Roswell Army Air Field/Walker Air Force Base was Col. Lee Ferrell, who was base hospital commander from 1954 to 1960.

A review of military aircraft accidents showed that the only accident for which burn victims were autopsied at Walker AFB was a KC-97 crash near Roswell on June 26, 1956. Many of the elements of the Glenn Dennis story—the missing nurse, Captain "Slatts" Wilson, the red-headed colonel, a secretive autopsy of badly burned, foul-smelling (gasoline-soaked) bodies, the pediatrician who left to Farmington—are actually found in history. But they are not found in July of 1947—rather, they appear spread out from the 1940s to the 1950s. The Glenn Dennis story is a classic example of how memories can be distorted over time.

The Gerald Anderson story (see Friedman and Berliner 1992, 90–92) is another splendid microcosm of the entire Roswell web. Many of the descriptions he provides can be correlated with actual military events in New Mexico—only these events occurred over a period of many years, not days.

Supposedly, in July 1947, five-year-old Anderson and family stumbled upon the main spaceship near the plains of St. Agustin, 120 miles to the west of the Roswell/Corona area.

The first thing he noted was "a circular silver object . . . kind of balanced up on one of the trees." Next, he said, "it crossed my mind that it was a dirigible, a blimp that had crashed. . . ." It turns out that on one occasion the Holloman Balloon Branch had tethered a mini-blimp at 10,000 feet, near the northern boundary of the WSMR. It broke loose during a thunderstorm and was located a few days later, near Socorro. Socorro borders

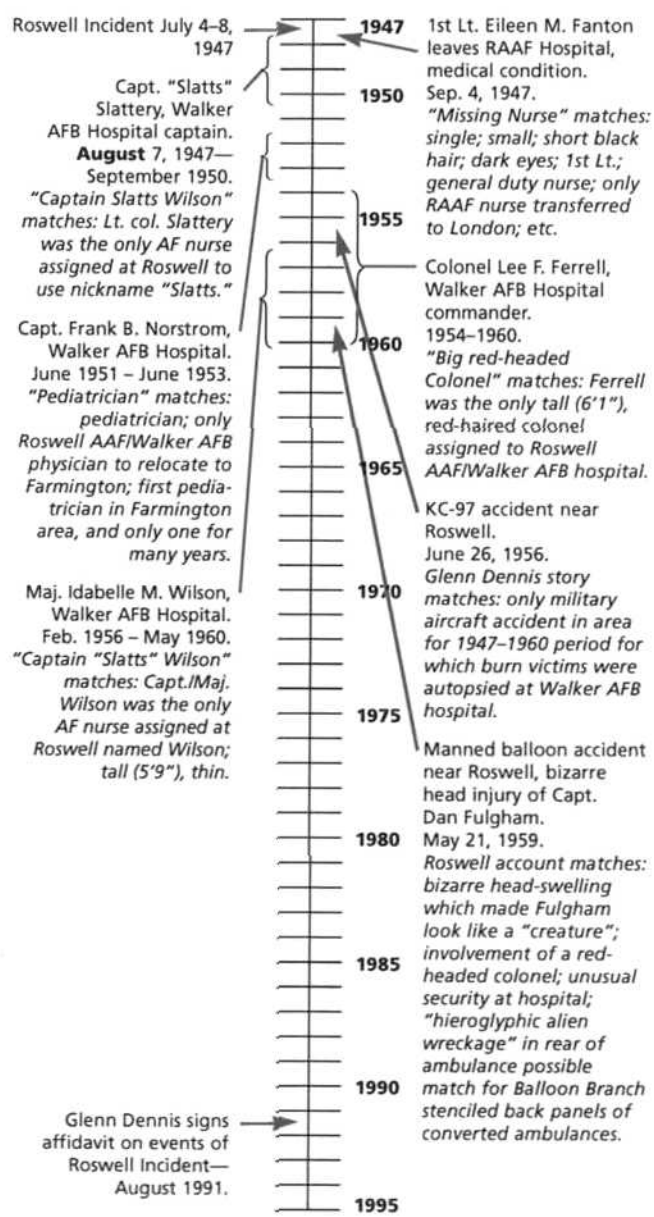
Roswell Incident July 4–8, 1947
Capt. "Slatts" Slattery, Walker AFB Hospital captain. **August** 7, 1947—September 1950. *"Captain Slatts Wilson" matches: Lt. col. Slattery was the only AF nurse assigned at Roswell to use nickname "Slatts."*
Capt. Frank B. Norstrom, Walker AFB Hospital. June 1951 – June 1953. *"Pediatrician" matches: pediatrician; only Roswell AAF/Walker AFB physician to relocate to Farmington; first pediatrician in Farmington area, and only one for many years.*
Maj. Idabelle M. Wilson, Walker AFB Hospital. Feb. 1956 – May 1960. *"Captain "Slatts" Wilson" matches: Capt./Maj. Wilson was the only AF nurse assigned at Roswell named Wilson; tall (5'9"), thin.*
Glenn Dennis signs affidavit on events of Roswell Incident—August 1991.
1947
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
1st Lt. Eileen M. Fanton leaves RAAF Hospital, medical condition. Sep. 4, 1947. *"Missing Nurse" matches: single; small; short black hair; dark eyes; 1st Lt.; general duty nurse; only RAAF nurse transferred to London; etc.*
Colonel Lee F. Ferrell, Walker AFB Hospital commander. 1954–1960. *"Big red-headed Colonel" matches: Ferrell was the only tall (6'1"), red-haired colonel assigned to Roswell AAF/Walker AFB hospital.*
KC-97 accident near Roswell. June 26, 1956. *Glenn Dennis story matches: only military aircraft accident in area for 1947–1960 period for which burn victims were autopsied at Walker AFB hospital.*
Manned balloon accident near Roswell, bizarre head injury of Capt. Dan Fulgham. May 21, 1959. *Roswell account matches: bizarre head-swelling which made Fulgham look like a "creature"; involvement of a red-headed colonel; unusual security at hospital; "hieroglyphic alien wreckage" in rear of ambulance possible match for Balloon Branch stenciled back panels of converted ambulances.*

Figure 3. Glenn Dennis Time Line

the plains of St. Agustin. But that blimp tore loose in 1972.

Next, Anderson noted, "It tore up a lot of sagebrush and there were small fires smoldering here and there. . . ." The Explosive Materials Research and Test Center (EMRTC) operates in a rugged area west of Socorro, on the northern fringes of the plains of St. Agustin. It performs research on explosive materials, including the demolition of aircraft fuselages. Anderson's family might have stumbled on the aftermath of such a test. He later described MPs coming out of trucks to order them out of the area. A gash in the hull revealing a multitude of cables and wires is possibly further evidence of the true nature of what they saw. But such tests were not conducted until after 1950.

Next, Anderson described the "aliens": "[H]is eyes was [*sic*] open, staring blankly. . . . I thought they were dolls. I didn't think they were alive. . . ." He said a truck convoy arrived and crews began a ritual. The activities of the crew and the vehicles, as described by Anderson, closely fit a description of a Holloman Balloon crew preparing an anthropomorphic dummy launch for Project High Dive. The payload people may have arrived first, and Anderson probably saw the dummies lying outside, while the crew was inside the instrumentation van. He also gave a good description of the tracking aircraft. But the events that Anderson described took place in February 1959, not July 1947. And they took place somewhere between White Sands, Roswell, and Corona, not near the plains of Augstin.

Anderson added other testimony, extracted from a family diary. It described an event near Magdalena, in the plains of St. Agustin. The story involved ranchers seeing a flying disc in that area, with government officials restricting access. Perhaps they witnessed the aftermath of a classified Discoverer satellite nose-cone launch from Magdalena. From a distance, dangling from the crane prior to launch activities, the satellite would have looked decidedly disc-shaped. But that was in 1960.

The weaving of these four disparate time-space events into a single space opera, if this in fact occurred, would have been worthy of Shakespeare. Perhaps many of these events were innocently combined into a single event by Anderson, a victim of a faded memory. But, considering Anderson's proven duplicity with diaries and phone records (Klass 1997), he may have strung together real or imagined events quite deliberately. Either way, the episode highlights the magnitude of the task originally confronting the USAF investigators.

Several other witnesses provided hints of dates far removed from July 1947. For example, Richard C. Doty, of Majestic-12 fame, cited 1949 for the event—replete with six aliens, five dead and one living (Peebles 1994, 316). Major Marcel, in his first post-Roswell interviews in February 1978, could not even remember what year the "incident" occurred (Klass 1997, 24).

Another Rosetta stone of the mechanics of time distortion are provided by pro-Roswell authors Randle and Schmitt. In their 1994 book *The Truth about the UFO Crash at Roswell*, they mention the Moby Dick balloon project (p. 154). Randle and Schmitt claim that the project was run by New York University, that it was secret, and that a July 1947 launch turned up in Norway. But coauthor Gildenberg participated in all phases of Moby Dick, and notes that: (1) it was not secret; (2) it was run by various Air Force groups, not by NYU; (3) the Norway event was in 1950; and (4) Moby Dick was not active at Holloman until December 1951, four years after the "Roswell crash" (see Figure 4).

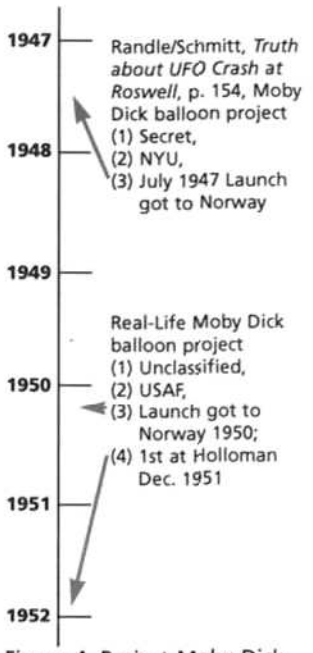

Figure 4. Project Moby Dick Time Lines (Randle and Schmitt's vs. Actual)

Conclusion

The Air Force Roswell report *Case Closed* provides several plausible explanations for many aspects of the Roswell UFO story—the bodies, the military retrieval convoys, the secretive autopsies of burned crash victims, the red-headed colonel, and more. Even the "archaeologists" who are often mentioned by UFO authors as present at crash recovery sites may finally have been explained. Randle and Schmitt found they could not be traced to practicing archaeologists in New Mexico at that time, but it turns out that they were probably just Holloman officers on the dummy launch/recovery teams. In that era, pith helmets and shorts were approved summer gear in the Southwest.

When you consider all the genetic, geological, astronomical, and climatological side branches leading to modern humans, a spaceship's dropping human-looking "aliens" all over the Southwest seems highly doubtful. That an alien culture millennia ahead of ours could do such a good imitation of the Keystone Cops—crashing into each other or into our balloons or planes with wild abandon—does seem rather strange. And if the sinister alien threat were real, the Air Force wouldn't have held an inept press briefing to blame the whole thing on dummies—instead, they would have briefed Congress to ask for more money for rockets, lasers, and satellites.

Furthermore, new witnesses are still coming forward with a decidely non-alien spin on events of that time. One such example is former Roswell hospital supply officer Lorenzo Kent Kimball (Kimball 1997).

A Broadway show from the era of the Roswell event was called *Bells Are Ringing*, and one hopes they have rung for our readers. The best tune from that production makes for a great conclusion: "The party's over. . . . It's all over, my friends." However, the Myth Machine that is Roswell is now entirely

self-propelled. The need for facts as fuel has long since passed. The Roswell machine could be coasting on the debris of reality for a long time.

Note

1. Major Jesse Marcel, the Army Air Force official who claimed the debris recovered from a New Mexico ranch in 1947 was not of this earth, never mentioned any bodies. Neither did other principals, such as Marcel's son, rancher Mac Brazel and his family, or Lt. Col. Cavitt. For a detailed discussion of the recovery of the debris, see Korff 1997.

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Gray Barker:
My Friend, the Myth-Maker

Gray Barker, who raised the "Men in Black" concept to prominence in UFO lore, didn't mind if the sensational flying-saucer stories he published were made up—as long as they were presented as fact. To him it was all a joke. Here John Sherwood ("Dr. Richard H. Pratt") for the first time confesses his role in Barker's flying-saucer, "Men in Black" myth-making.

JOHN C. SHERWOOD

If Gray Barker were alive today, he'd think he'd died and gone to heaven. Seems that now everyone has heard of the "Men in Black," a concept he first raised to prominence in UFO lore.

And, of course, he'd try to make a fast buck off of them.

The late Gray Barker, head of Saucerian Publications and author of numerous books about flying saucers, was one of the most prolific writers and publishers in the "fringe" area of UFO fanaticism.

Some amusing yet disturbing details about Barker's constructive (and certainly destructive) contributions to the fantasy world of UFOs have lurked in my files for decades. Despite the personal shame I attach to them, their general release is long overdue.

Gray and I never met face to face, but I owe to him the

beginning of my journalistic career, and my only corrupt journalistic experience. In 1967, he published my somewhat juvenile "history" of the 1966 Michigan UFO "scare," a book Gray titled *Flying Saucers Are Watching You.* Its publication gained me my first newspaper job. After that, Gray and I shared a lengthy correspondence, and he may even have considered me one of his protégés. Gray also put me in touch with some of the more extravagant figures in the UFO field, including the notorious Richard Shaver of "Shaver mystery" fame, and enjoyed my reciprocal sense of humor.

"I think that the sci-fi story you are thinking of, revealing at the end that it's made up, would be a little too negative. . . . How about an article just making your exiting from research even *more* mysterious than ever!"

I pulled Gray's letters out of my files after my wife and I saw the trailer for the 1997 summer movie hit *Men in Black*, the Tommy Lee Jones/Will Smith megamillion-dollar movie spectacle that owes a fair share of its style to Gray's 1956 book *They Knew Too Much about Flying Saucers.* The fact that I had kept the letters might bother Gray now, considering what I'm about to confess. In fact, Gray (and some others deceived by what he and I concocted) may meet me in hell with fangs at the ready. To those who were fooled, I certainly owe an apology for the role I played. But it's time that this material was made public.

Barker's day job was as a theatrical film booker in Clarksburg, West Virginia. He also was a talented writer, an early lover of flying-saucer lore, and a man who could make a good story better. He was hyperimaginative and could have written science fiction.

A lot of what he wrote probably was just that. But he always offered his accounts as fact.

They Knew Too Much about Flying Saucers made the Men in Black (M.I.B.) feared within UFO circles during the late 1950s and 1960s. The book now is hard to find, and my hardcover copy—the third printing—has crispy pages. In it, Gray told about alleged brushes between the sinister M.I.B. and a Connecticut man, Al K. Bender, who set the pace for what is now the stereotypical M.I.B. story: Someone sees a UFO and tries to tell the world about it. Without warning, three men in black suits and driving a big black car confront the witness. Afterwards, the witness appears too frightened to talk further about the UFO—or anything else. *Woo-WOOO-oo!*

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In account after account within the pages of *They Knew Too Much* and subsequent writings by others (including John Keel, who began using the shorthand "M.I.B." in his writings), the mysterious trio—who at times seem to have uncanny mental powers and weird, otherworldly faces—squelch all discussion about supposedly true UFO encounters. The whole notion smacked of a huge, pre-Watergate conspiracy.

As I began to write this apologetic revelation in July 1997, the news came that the U.S. Central Intelligence Agency indeed may have participated in a coverup not unlike that supposedly initiated by the fabled M.I.B. U.S. intelligence historian Gerald K. Haines wrote an unclassified article for *Studies of Intelligence,* a CIA journal, revealing that during the 1950s the U.S. Air Force and other agencies actually did conspire to suppress the UFO issue and to concoct false cover stories to explain sightings of such super-secret U.S. spy planes as the U-2 and later the SR-71 Blackbird (the Internet address for Haines's study is http://www.odci.gov/csi/studies/97unclas/ufo.html).

So, Bender, Barker, and the rest indeed may have been inspired by a grain (or several grains) of truth. But that doesn't contradict what I am about to disclose about Barker's participation in—and encouragement of—actual fraud to perpetuate sales of his UFO books and magazines.

I knew little about the bizarre world of "ufology" when I typed up a detailed account about the 1966 Michigan UFO sightings and sent the manuscript to Saucerian Publications, the book company Gray had set up with the profits from *They Knew Too Much.* Gray published my book in 1967, paid me a satisfying sum, and made me a published writer at age seventeen. With that on my resume, I got my first newspaper job, in my hometown of Marshall, Michigan. Two years later, I was working in the *Battle Creek Enquirer* newsroom in Battle Creek, Michigan, where I work as opinion-page editor today.

Meanwhile, Gray and I continued to correspond. Here's one telling excerpt from a letter of his dated June 27, 1968: "Strictly off the record, unusual interest and fixation upon UFOs represents, in my opinion, a definite symptom of neurosis. . . . I cannot (again off the record) bear for very long most of the people and the fans of saucerdom, mainly because most of them are oral aggressors (i.e., they talk all the time about saucers and make you listen). I do genuinely like a few saucerers (and former saucerers) like yourself, who, along with their interest in saucers, seem to be pretty sane and can have a sense of humor about it."

That same year, in creative zeal, I had sent to him a sci-fi piece I wrote about a scientific organization that discovers that UFOs are actually time machines, then encounters a more sinister enemy group of time-travelers who try to destroy them. The story began with a pseudoscholarly discussion by a ficti-

Gray Barker

tious scientist, Dr. Richard H. Pratt, about time travel and UFOs. The rest of it was about Pratt's mysterious encounter with three strange individuals "trapped" in our own time.

Gray urged me to try to make the incident seem real by creating a fictitious organization out of whole cloth. In youthful amorality, I picked up Gray's ball and sent a letter to Ray Palmer's *Flying Saucer* magazine, which, in early 1969, published verbatim my anonymous announcement of the formation of an organization that identified itself only as the B.I.C.R., supposedly formed by three men whose names were given as William A. Gautier, Thomas Harper, and R. James Kipling (names I concocted using my shelf of books by great fiction writers). Meanwhile, as I prepared for my busy college years, I had disbanded a small but legitimate UFO-investigation group I had led since 1965 and ceased publishing a small "saucer 'zine" I had been sending to associates in thirteen states.

Gray's letter quoted above went on about the reaction to the news in the UFO world about my UFO group's disbandment: "Did you see *Saucer Scoop*?" he wrote. "They're doing a big deal on you, suggesting you really were hushed by the blackmen. I'll always be glad to print an article by you if you'll tell the *real* (or made up) story of how these strange forces made you quit. You might as well go out of saucers in the usual syndrome."

I wrote to Gray saying that I would follow up in the form of a rewritten version of the Dr. Pratt/time-travel sci-fi piece I'd already sent him. I said I would make it clear that it was just a story. Here was his response on July 12, 1968: "I think that the sci-fi story you are thinking of, revealing at the end that it's made up, would be a little too negative. Already some readers are accusing us of making up things (which we *do* occasionally of course). How about an article just making your exiting from research even *more* mysterious than ever!"

"Try to make it as technical as possible to make it look like a real scientific report. The real scientists who read our 'zine will see the hoax and I hope take it as a joke."

In my youthful naiveté and desire to be published, I didn't challenge the wrongness of this. It took me a few months to put together the revised story, now ready to be published as true. In a letter dated December 7, 1968, Gray coached me: "Try to make it as technical as possible to make it look like a real scientific report. The real scientists who read our 'zine will see the hoax and I hope take it as a joke." My article "Flying Saucers: Time Machines," by "Dr. Richard H. Pratt," was published in the Spring/Summer 1969 issue of Barker's magazine *Saucer News*, followed by "The Strange B.I.C.R. Affair" in the Summer 1970 issue.

An interim letter, recounting his work on a book about the West Virginia "Mothman" sightings, reflects Gray's attitude about publishing fiction as nonfiction: "About half of it is a recounting of actual sightings and events in the Ohio Valley circa 1966. . . . I think that the 'true accounts' are told in an exciting way, but I have deliberately stuck in fictional chapters based roughly on cases I had heard about." Evidently, Gray had few qualms about publishing as fact fictional material deliberately contrived for release under the Saucerian Press label and for *Saucer News*.

Gray wrote to me about the reaction to "Flying Saucers: Time Machines": "Evidently the fans swallowed this one with a gulp." Subsequent notes in my files include copies of letters Gray sent to other UFO researchers, including Ray Palmer, disingenuously requesting follow-up data on the supposedly true identity of "Richard H. Pratt," who now supposedly had dropped mysteriously from sight. These notes thankfully drew suspicion away from myself.

In early 1983, shortly before he died of a heart attack, Gray published another book, *M.I.B: The Secret Terror Among Us*, which he dedicated to Al K. Bender, the Connecticut man who had inspired *They Knew Too Much*. Gray devoted an entire chapter to "Dr. Pratt" and presented the story as if it really might be true. To my perpetual shame, I shut up again. After all, I told myself, Gray had given me my career break—and he was publishing my stuff. I tried to ignore that he was playing fast and loose with the truth. And I had realized that a lot of what he had written before probably was just as loose.

Over the years, I have received mail from various people who have wondered whether I might know something about the background of the strange "B.I.C.R. affair." I always claimed that I knew nothing or that I didn't want to talk more about it. Even after Gray died, I kept quiet.

But the myth has moved to a new stage in its evolution, and it is only right that some background be provided about the man who helped to launch it. I have tuned in the TV series *Night Skies* and seen the Men in Black portrayed as government agents flying scary black helicopters. And, of course, it wouldn't surprise me to see Tommy Lee Jones and Will Smith return in a sequel to last summer's big movie hit. It's only a matter of time before someone puts together a supposed "true history" of the M.I.B.; and because of Gray, it will be very difficult to separate the wheat (if there is any) from the chaff.

The saving grace is that the movie was presented as a comedy. That's appropriate, because so much of it really is a huge joke. And that weird laughter you hear is coming from Gray Barker's grave. □

A Skeptic Living in Roswell

Roswell residents generally regard the UFO hoopla as harmless fun and a source of tourist dollars. Local civic leaders ignore the dark side of UFO mania, especially its common roots with sex-abuse hysteria and urban legends such as satanic cults.

MARTHA A. CHURCHILL

Exhausted from packing boxes all day, I was glad to see my moving man, Tim, and his assistant carrying the last pieces of furniture out of my Chicago apartment. As he pushed a dresser into place, Tim called out from the back of my rented truck, "By the way, where are you moving?"

"Roswell, New Mexico," I answered.

Tim was obviously intrigued and seemed to know quite a bit about the place. "You know, for two cents, I would go there with you," he remarked, excitedly.

"Hey, I'm driving there anyway. If you want to come along, you are welcome," I replied. My offer was sincere. I would have a second driver to help with the long drive across the country. At the end of the road, I would have a mover ready to help me unload the truck.

As it turned out, the long miles between Chicago and south-

east New Mexico would provide my first real introduction to UFOs. This was quite unexpected, because Tim was referred to me by one of my False Memory Syndrome Foundation friends, and FMS Foundation people do not generally go in for stories of flying saucers or space aliens. The FMS Foundation is dedicated to scientific reason as an antidote to the "recovered memory" hysteria spreading through the psychological community. Some mental health workers unwittingly implant ideas of childhood trauma in general, and sex abuse in particular. The FMS Foundation was established by falsely accused parents whose adult children were victimized by the "recovered memory" therapists.

The FMS controversy hits me close to home, since one of my sisters has falsely accused my father of inflicting sexual trauma on her when she was a toddler. She first "remembered" these horrible events after her fortieth birthday, and after reading one of those pop psychology books emphasizing the supposed "epidemic" of childhood sexual abuse reputedly "repressed" by traumatized children. My experience led me to read numerous books and scientific articles about implanted memories concerning childhood sex abuse, past-lifetime trauma, satanic ritual abuse, and even UFO abductions.

As I was packing boxes and saying farewell to my friends in Chicago, I did not realize I was about to relocate to the epicenter of myth and hysteria, where UFOs are taken for granted as real, and where the city council members show civic pride by wearing jewelry or clothing depicting such things as aliens and spaceships.

While Tim did an excellent job loading my furniture in and out of my rented truck, he also gave me a crash course in UFOs and other New Age thinking. Of course, the concept of New Age "thinking" is an oxymoron, since New Age adherents are notable for *lack* of critical thinking skills. As the miles slowly passed by in Missouri, Tim shared his faith in UFOs as reality. "Some of my friends really *were* abducted by space aliens," he confided. "Someday, I will be abducted too." This seemed unnecessary, as far as I was concerned, since Tim was already a space cadet. But if anyone was a candidate for future UFO abduction, probably Tim would be high on the list.

Somewhere in Oklahoma, Tim shared his hope to one day move from Chicago to Denver. That location would bring him as close as possible to the psychic vibes emanating from the West Coast, he explained, while sparing him the coming catastrophe that will result when the West Coast falls into the Pacific Ocean. This last bit of information was confided to me in a whisper because, according to Tim, California is *more* likely to fall into the ocean if more people *talk* about it. Apparently a discussion about California's falling into the ocean is more dangerous if conducted in a loud voice, so Tim was lowering his voice as a safety measure.

As we approached Amarillo, Tim decided to share a tape recording he considered very special. He pulled out a cassette tape and informed me that it constituted proof positive that mediums *can* communicate with the dead. Some mediums are fakes, Tim conceded, but he assured me that the one on his cassette tape was authentic. Soon I was listening, horrified, as a hysterical woman blabbered incessantly as if she were a dead guy who supposedly was speaking through her. She used the dead man's name as if it were her own and chattered endlessly in the first person with news from beyond the grave.

By the time we crossed the border from Texas into New Mexico, I was just about ready to strangle Tim and let him find out for himself about conditions on the other side of the grave. I restrained myself, however, and five hours later we were pulling into the driveway of my new home. I loaned him my car for the next two days so that he could explore Roswell's UFO museum and have his picture taken in front of an alien dummy taken off a movie set. When he proudly showed me the picture, I laughed it off, thinking the UFO discussions were nothing but a joke in my new community.

With a population close to 50,000, Roswell is large enough to support a Wal-Mart, a Kmart, a Target, and over half a dozen full-sized grocery stores. The town is somewhat closer to Texas than to Arizona. We are geographically insulated here, in that the nearest "big" cities, such as Albuquerque or Lubbock, are nearly four hours' drive away. The scenery consists mainly of wide-open spaces, punctuated only by a few cows or a couple of deer. We are culturally insulated as well, with a public school system that sponsors a nativity play every December, complete with shepherds and manger scene. Teachers here apparently haven't heard of U.S. Supreme Court rulings requiring the separation of church and state. I am probably the only Roswell resident who subscribes to the SKEPTICAL INQUIRER.

One of the high schools here is named after legendary rocket scientist Robert H. Goddard, so one would think that a town cheering for the Goddard Rockets on its football field would be a science-oriented place. However, I overheard a biology teacher in Roswell express an intent to teach so-called creation science, right alongside evolution, as a supposedly valid scientific study.

Don't get me wrong. Roswell has many endearing qualities, and the open skies here give a fabulous view of the stars, a luxury I could not have enjoyed in a metropolitan area like Chicago. Obviously, I am not the only stargazer in Roswell. There are some UFO buffs here who firmly believe in alien spaceships lurking beyond those beautiful stars, waiting to crash on someone's sheep ranch.

Martha A. Churchill was living in Roswell, New Mexico, in late 1997 when she wrote this article. She was an attorney with the Bennett Law Office, about one block away from the UFO museum. She has written articles and editorials on environmental hysteria and how the courts deal with perceived but unproven health dangers, such as electromagnetic fields and silicone breast implants. Her address is 73 W. Lewis Ave., Milan, MI 48160, (734) 439-4055. E-mail: marthac1@juno.com.

Since my arrival here in December 1994, I've been featured more than once on the evening news. While the Roswell UFO stories were gaining momentum, I was talking to reporters about the sex-abuse hysteria that gripped Wenatchee, Washington, a small town about the size of Roswell and similarly isolated in terms of its distance from larger cities. Always eager to educate the public about the dangers of mass hysteria, I gladly told a local TV reporter of the atrocities in Wenatchee, where innocent people were being sent to prison based on unsubstantiated rumors of "satanic" sex abuse in organized "rings." After the news broadcast aired, several law enforcement officers stepped forward to assure the public that mass hysteria like Wenatchee's could never occur in Roswell. It seemed to me that the UFO stories amounted to an urban legend bordering on mass hysteria, but at least no one was going to prison due to false accusations of secret sex rituals with Martians.

My sense of security was shattered when I read the local paper and learned that the police department was sponsoring a seminar on "satanic" teenage gangs. Horrified, I paid a personal visit to the newsroom of the *Roswell Daily Record* and pointed out that our police department was promoting absurd ideas about teenagers who were supposedly gaining supernatural powers through the use of upside-down crosses. The news manager, Mike Bush, calmly gazed at me and remarked, "You don't mean to say there are no satanic cults in Roswell, do you?"

Amazed at his suggestion, I asked him if he personally knew any satanic cult members. "Why, no!" he exclaimed, offended. "But I happen to know quite a bit about them." He reluctantly accepted my letter to the editor, protesting the seminar. But I realized that my objections to the seminar would have to be disseminated other than through the local newspaper. I walked out of the newsroom, past the displays of UFO coffee mugs and T-shirts, and returned to my office where I prepared a pamphlet attacking people who believe in witchcraft.

On the morning of the seminar, I stationed myself outside the hotel and greeted arriving participants with my handout. One state police trooper, a devout believer in the "threat" of satanic cults, realized his audience was being contaminated with my pamphlet and the opposing point of view I espoused. Furious at my impertinence, he snatched the pamphlets from the hands of seminar participants and marched up to me, shoving the wrinkled pamphlets into my face and warning that if I attempted to pass out any more, he would confiscate them immediately. "Thanks for the extra pamphlets," I murmured politely. "I was starting to run low."

When I returned to the seminar at noon, armed with a larger supply of pamphlets to distribute, a TV reporter was waiting for me with a camera to record my confrontations with seminar organizers. Back on the local news that evening, I did my best to explain why a police-sponsored seminar on "satanic" cults would expose our town to the possibility of mass hysteria, comparable to the McMartin Preschool in Manhattan Beach, California, or the Little Rascals day care center in Edenton, North Carolina.

By this time, I already had a reputation as an outspoken critic of those who spread "satanic cult" myths. Thanks to my protests to the *Albuquerque Journal*, the state Department of Children, Youth, and Families had been forced to recall a brochure warning parents of "satanists." According to the brochure, the evil satanists amputated fingers of small children to initiate them into secret covens of witches. In a front-page story, the *Journal* (October 28, 1995) quoted my saying that the brochure could promote paranoia and false accusations. Heather Wilson, head of Children, Youth, and Families, was quoted in the *Journal* as saying, "We don't have any instances of that here *in New Mexico*." Apparently, she withdrew the brochures under pressure from the media but was not willing to admit the "satanic cult" danger is wholly a myth.

My public protests against the police seminar on "satanic" cults gained me instant notoriety in Roswell, and my name was somehow linked to satanism. A few people called me at my office asking for advice about satanism stories they had heard, and I accepted several speaking engagements for local service clubs to warn against the dangers of mass hysteria generally.

In speaking out against mass hysteria, I was always careful to avoid any mention of spaceships, since UFOs were becoming a significant source of tourist dollars to Roswell. It is considered traitorous to dispute the authenticity of flying-saucer lore in this part of the state. "There may be aliens visiting Earth, but I can't figure out why they only seem to abduct the schizophrenics," I say, jokingly, while thinking back to my

mover friend and his near-delusional New Age ideas.

In late 1996, town leaders began busily publicizing the upcoming fiftieth anniversary of the supposed alien crash on a ranch northwest of town. Everyone was focused on July 4, 1997, but not in honor of Independence Day in the sense of a red, white, and blue flag. Roswell was getting ready for *Independence Day*—the movie about a spaceship that tries to take over Earth.

As summer approached, the UFO hoopla grew louder and more insistent. Nearly every business in town adopted a UFO angle. The local fabric store started selling a locally designed black cotton with the silver alien faces, flying saucers, and "Take Me To Your Leader" motif. A feed store on the edge of town used its life-size horse model to feature a silver alien stuffed doll, which sat atop the horse cowboy style. My favorite bagel restaurant added a sign to the window stating, "Welcome, aliens and all!" and displayed a bagel shaped like a flying saucer. Even the tire store was cashing in on the alien theme, with a cleverly drawn painting in the window depicting a moonscape scene with a shining silver alien posed next to a futuristic car sporting large black tires. Restaurants, motels, and souvenir shops all sold UFO T-shirts, including the Native American souvenir shops. One of the Navajo symbols, known as the flute player, was depicted on coffee cups with the caricature alien face, complete with the slanted, almond eyes, and a spaceship overhead.

The whole town was decked out in UFO memorabilia, and people were wearing costumes. It was just like Halloween, except that the ghosts and goblins one would normally see in October were replaced with Klingons, Vulcans, and little green men. Some homes had lighted UFO displays on their lawns, reminiscent of the reindeer and Santa Claus displays associated with Christmas. Like Christmas in July, local merchants had visions of extraterrestrial sugar plums dancing in their heads, as the mayor and town leaders speculated on the huge influx of tourist dollars expected for our small town on the Fourth of July weekend.

In Roswell, the UFO brouhaha is centered on the idea of friendly, happy space aliens. In early spring 1997, the *Roswell Daily Record* initiated a comic strip featuring an alien about the size of a kindergartner, and just as adorable. The alien got into conversations with small animals and children, always with a humorous twist. Roswell space aliens never hurt anyone; they are gentle and courteous, an attraction for tourists.

The Heaven's Gate mass suicide at Rancho Santa Fe, California, in March 1997 was a shock to Roswell. A local TV reporter, remembering my involvement with the police cult seminar, called me that afternoon for an interview about cults. Armed with a stack of books debunking "satanic" cult myths, I sat down with the reporter and patiently explained that "satanic" cults are a figment of the imagination. After about a half an hour of insisting that cult membership cannot produce supernatural powers, the reporter asked me if cults could exist in Roswell. "Sure," I said, "Cults can exist anywhere, if people are cut off from their families and friends, and taken in by an authority figure." I went on to explain that some psychotherapy groups amount to "cults" in that the members are told to cut off contact with their families and blindly follow the charismatic counselor.

To my dismay, the evening news featured an idiotic rendition of a "satanic" cult believer in Carlsbad, a nearby small town. The believer, who happened to be a police officer, was warning folks of the dangers of cults and implying that "satanists" may be waiting in the wings, ready to snatch our children and kill them with purple blankets and black tennis shoes. Then the news program switched to me, with the "Cults can exist anywhere" line and a printed tagline: "Martha Churchill, *Cult Expert.*"

Furious, I phoned the TV station and complained about the way they twisted my words and insulted me with the "Cult Expert" tagline. I should have known better than to think that the media could help stamp out an episode of mass hysteria in the making. Public panic sells newspapers and increases the ratings for TV and radio stations. If there is no danger, there is no news.

The Heaven's Gate fiasco brought severe economic repercussions to this corner of New Mexico. Town organizers had lined up national sponsors, including the Fox television network, to televise the fiftieth anniversary of the great Roswell crash. Then Heaven's Gate came along, with tidings of death and madness in association with UFO lore. Suddenly, those cute and cuddly aliens depicted in the comic strip of our local paper had turned menacing and threatening, at least from the sponsorship point of view. The national influx of money dried up in an instant, leaving the Roswell organizers with only our local businesses to sponsor the event.

As the UFO festival was about to begin, I noticed a few local churches displaying anti-UFO messages. Some of the town's religious leaders may have caught on to the messianic message disseminated by many UFO believers, who talk of a space alien coming down to Earth to rescue humanity from nuclear extinction with superior outer-space (heavenly?) technology. I can see why church leaders would be nervous about UFO belief as a possible false religion. Believers seem to worship the possibility of extraterrestrial technology as the equivalent of a deity. Instead of waiting for their ship to come in, these people are waiting for their *space* ship to come in.

It would be ironic if a town like Roswell, in the Bible belt, could spawn a new UFO religion venerating the idea of science and technology—with adherents who refuse to learn basic principles of scientific thinking.

Fearing an influx of space cadets and New Age flakes similar to my former moving man, I arranged an out-of-town trip

A SKEPTIC IN ROSWELL
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Multiple Personality Disorder: Witchcraft Survives in the Twentieth Century

Since 1980, some psychotherapists have claimed that thousands of Americans are afflicted with multiple personality disorder. Believing such claims requires ignoring their many serious deficiencies.

AUGUST PIPER JR.

Any people, given over to the power of contagious passion, may be swept by desolation, and plunged into ruin.

—Charles W. Upham, 1867

An epidemic of psychiatric illness is sweeping through North America. Before 1980, a total of no more than about two hundred cases had ever been found in the entire world, throughout the entire recorded history of psychiatry. Yet today, some proponents of the condition claim that it afflicts at least a tenth of all Americans, and perhaps 30 percent of poor people—more than twenty-six million individuals. An industry involving significant sums of money, many specialty hospitals, and numerous self-described experts, has rapidly grown up around the disorder.

The illness is multiple personality disorder (MPD), a

condition that has always attracted a few wisps of controversy. Lately, these wisps have coalesced into clouds that, in drenching rainbursts, pour criticism on the disorder. An examination of the flawed reasoning, unsound claims, and logical inconsistencies of the MPD literature shows that well-founded concerns drive this storm of criticism.

What Is MPD?

MPD is classified as a dissociative disorder. The term *dissociation* refers to disruption in one or more mental operations that constitute the central idea of "consciousness": forming and holding memories, assimilating sensory impressions and making sense of them, and maintaining a sense of one's own identity (American Psychiatric Association 1994, 477). The essence of dissociation is that material not in awareness influences behavior, mood, and thought (Spiegel and Schleflin 1994). Thus, the behavioral disturbances prominently manifested in dissociative disorders are considered to be unconscious: that is, resulting from forces beyond the patient's awareness, beyond voluntary control.

The king of dissociative disorders is MPD,[1] also called dissociative identity disorder. Afflicted people episodically fail to recall vital data about themselves, but what distinguishes MPD from all other psychiatric conditions is the putative cause for these memory failures. The condition's proponents claim the memory failures occur because patients are periodically taken over by one or more "alter personalities" (variously referred to as "identities," "ego states," "alters," or "personality states"). These guest personalities, submerged since being formed during childhood—more on this later—rise to the surface and impose their own memories, thoughts, and behaviors on patients.

The essential feature of MPD, it is said, is that an individual's behavior is controlled by two or more alters (Putnam et al. 1990); the separate identities are assumed involuntarily (Sarbin 1995; Watkins and Watkins 1984). One personality may feel "carried along in a panicked helpless state" as another endangers it or engages in behavior repugnant to it (Kluft 1983, 75). Patients are said to experience a sense of being *made to* misbehave or hurt themselves (Putnam 1991). Some theorists even claim the existence of "omnipotent alters," which can simply compel patients to do their bidding (Lewis and Bard 1991). As an example, C. A. Ross writes of alters that "force [the patient] to jump in front of a truck. [The alters] then go back inside just before impact, leaving the [patient] to experience the pain" (Ross 1989, 115).

The image of all this is of an invading army usurping a government, an operator taking control of a machine, or a parasite attacking another organism. For example, contributors to the MPD literature frequently make statements such as, "If [the patient] drops her guard, the alters take over" (Bliss 1980, 1393). Proponents describe the original personality as the "host"—again recalling notions of a parasite—and describe the change from host to alter, or from one alter to another, as "switching." Thus, a librarian may one minute be her forty-two-year-old true shy self, but behave in the next like a nine-year-old child, a deep-voiced, foul-mouthed logger, or a promiscuous woman who picks up men in bars (Putnam 1989, 111, 119–120).

These guest personalities, or "alters," are believed to have many truly remarkable capabilities and qualities. Some have the task of reproducing—of creating new alters. Others, it is claimed, determine which alter will take control of the body at any particular time (Kluft 1995, 364). There are alters of people of the opposite sex, of the treating therapist, of infants, television characters, and demons. Alters of Satan and God, of dogs, cats, lobsters, and stuffed animals—even of people thousands of years old or from another dimension—have been reported by MPD proponents (*Fifth Estate* 1993; Ganaway 1989; Hendrickson et al. 1990; Kluft 1991b, 166; Kluft 1995, 366; Ross 1989, 112; Ross et al. 1989).

MPD proponents assert that all manner of activities—creating a work of art, driving a car, fighting, doing schoolwork, engaging in prostitution, cleaning a bathtub, or even baking chocolate-chip cookies—are performed by alters (Braun 1988; Putnam 1989, 104; Ross 1989, 112).

Alters are often wily, secretive, and elusive. For instance, R. P. Kluft (1991a) says he has identified guest personalities whose role is to deny that the patient has MPD, thus obscuring the diagnosis. Personalities are also said to try to trick therapists by hiding and impersonating each other (Putnam 1989, 113). They are said to be plastic: "Alter A may be somewhat different when it has been preceded by alter B than when it follows alter C" (Kluft 1988, 49). They are said to multiply: each alter can undergo a cascade of splits, resulting in what is called "polyfragmented" MPD (*Frontline* 1995; Ross 1994, 60). Or the opposite may occur: during therapy, several alters may coalesce into a kind of "superalter" (Kluft 1988). It is even claimed that they can permanently stop growing at some time, or temporarily stop aging by going into "inner hibernation" and then emerging to resume growing older (Ross 1989, 112). Cases reported in the last few years have shown a median number of two alters at the time of diagnosis; however, during treatment, a further six or twelve usually appear (Putnam et al. 1986; Ross et al. 1989). Sometimes many more are found: as many as one quarter of cases have twenty-six or more alters (Kluft 1988). And the longer patients remain in treatment, the more guest personalities are discovered (Kluft 1988; Kluft 1989): "It is the rule rather than the exception for previously unknown personalities to enter the treatment" (Kluft 1988, 54). Patients with 300 and 4,500 personalities have now been reported (Kluft 1988; Ross 1989, 121; Ross et al. 1989). Kluft has been consulted "several times" on cases where therapists claim—wrongly, Kluft says—to have counted "upward of 10,000 alters" (Kluft 1995, 363).

Why this nearly endless flowering of personalities?

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According to MPD proponents, it occurs because each trauma or major life change experienced by an MPD patient causes some or all of the alters to be created anew (Kluft 1988).

What Causes MPD?

According to proponents, extraordinary childhood traumas—usually sexual or other abuse by adults—lead to MPD.

The theory is as follows. Because the child cannot physically escape the pain, its only option is to escape mentally: by dissociating. Dissociation is said to defend against pain by allowing the maltreatment to be experienced as if it were happening to someone else (Atchison and McFarlane 1994; Braun 1989; Kluft 1985a; Kluft 1987; Ross 1995). The distress of this childhood maltreatment is also endured by employing *repression*, a mental mechanism that supposedly allows the child to forget that the abuse happened at all (Lynn and Nash 1994): "Now, not only is the abuse not happening to me, [but] I don't even remember it" (Ross 1995, 67).

Eventually, MPD proponents claim, these defenses begin to be overused—that is, enlisted more and more to cope with commonplace, everyday stressors (Braun 1986, 66; Putnam 1991). The abuse victim's "dissociated internal structures are slowly crystallized" until they become personalities (Atchison and McFarlane 1994; Putnam 1989, 53–54; Ross 1995a, 67). As mentioned earlier, this alter-building process is supposed to occur almost exclusively in early childhood (Greaves 1980; Vincent and Pickering 1988).

What's Wrong Here?

So stands the tottering house of MPD theory. Its foundation crumbles and termites gnaw; the storm beats upon it.

The house suffers from at least four serious ailments.

The first: What, exactly, is an "alter personality"?

One might believe that the disorder's proponents would long ago have taken the elementary step of answering this fundamental question. Such a belief would be mistaken. The MPD literature contains not one single plain, understandable definition that would allow an alter to be recognized if it were encountered on the street, in a person one has known intimately for years, or even in oneself.

The vagueness and imprecision of the alter concept are shown by the frequency with which even MPD experts contradict each other on the fundamental attributes of these entities. As an example, Ross (1990) says patients' minds are no more host to many distinct personalities than their bodies are to different people; another theorist believes that alter personalities are imaginary constructs (Bliss 1984). But in contradiction, *DSM-IV* and the writings of several MPD theorists repeatedly stress that alters are well-developed, distinct from one another, complex, and well-integrated (Kluft 1984b, Kluft 1987; Taylor and Martin 1944). Also, MPD-focused practitioners routinely report patients who have dozens or hundreds of personalities—yet Spiegel (1995) has recently claimed that because MPD patients cannot integrate various emotions and memories, such patients actually have less than one personality, not more than one.

Contradictions abound elsewhere, too. On the one hand, Bliss (1984) believes personalities have specific and limited functions, and possess only a narrow range of moods. But on the other, Braun (1984) and other proponents (Putnam 1989, 104; Ross 1989, 81) say that *fragments* do not have a wide range of mood or affect. One proponent states that *fragments* "carry out a limited task in the person's life" (Ross 1989, 81), but then later in the same publication (111–118) argues that *personalities* may perform only one specific function, represent only a single mood or memory, or exhibit only a narrow range of skills.

This failure to rigorously define the concept of a guest personality leads to all manner of excesses. For example, MPD proponents discover MPD in people whose close relatives, and others who have known those people for years, have never once seen any evidence of alters (Ganaway 1995). Kluft (1985b), for instance, diagnosed the disorder in a series of people—even though he himself acknowledged that almost half of them showed "no overt signs" of MPD. These proponents also find MPD even in people who lack any knowledge whatever of having the condition (Bliss 1980; Bliss 1984; Kluft 1985b), and at least one enthusiast recommends that people be treated for MPD even if they claim not to have the disorder (Putnam 1989, 139, 215).

The imprecision of the alter concept allows MPD adherents to claim that scores of patient behaviors should signal the possible presence of guest personalities. Thus, adherents claim that the following behaviors—and many others—are important diagnostic clues for MPD: glancing around the therapist's office; frequently blinking one's eyes; changing posture, or the voice's pitch or volume; rolling the eyes upward; laughing or showing anger suddenly; covering the mouth; allowing the hair to fall over one's face; developing a headache; scratching an itch; touching the face, or the chair in which one sits; changing hairstyles between sessions; or wearing a particular color of clothing or item of jewelry (Franklin 1990; Loewenstein 1991; Putnam 1989, 118–123; Ross 1989, 232). In one case known to the author, a leading MPD proponent claimed that the diagnosis was supported by behavior no more remarkable than the fact that the patient changed clothes several times daily and liked to wear sunglasses.

These beliefs about personalities raise some difficult questions that MPD enthusiasts fail to answer. First, how does alter-induced behavior differ from behavior people show every day—say, when they are angry or happy (Piper 1994a)? Do indwelling alters or fragments cause all feelings? If not, how does one determine which emotions result from the activities of alters, which from those of fragments, and which from neither? One proponent acknowledges the difficulty posed by these questions: he says alters may be indistinguishable from the original personality (Kluft 1991b).

Second, how do persons claiming they are overpowered by "irresistible alters" differ from those who attempt to avoid legal sanctions by claiming that, when they committed crimes, they

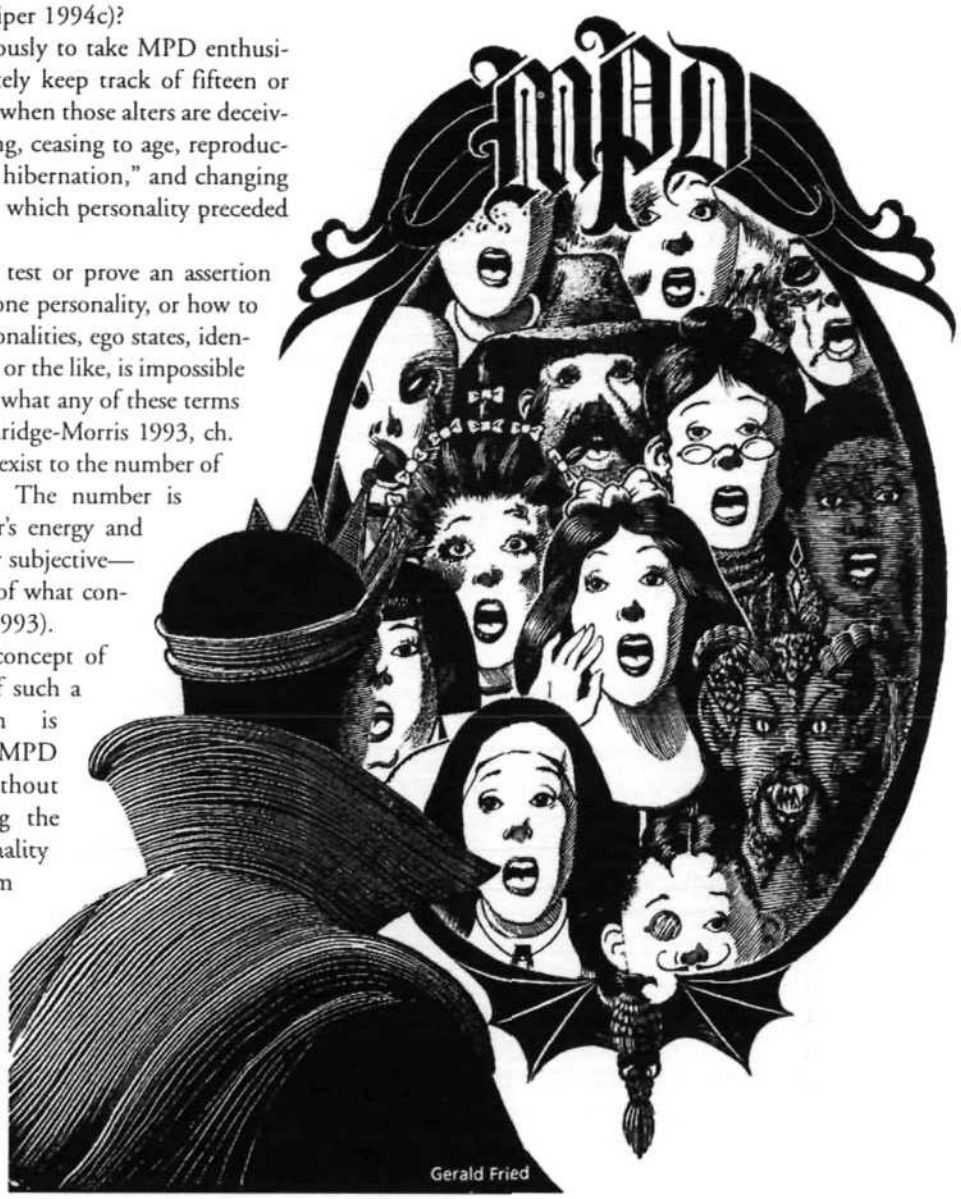
couldn't control their behavior (Piper 1994c)?

Finally, one wonders how seriously to take MPD enthusiasts' claims that they can accurately keep track of fifteen or thirty invisible alters—or 4,500—when those alters are deceiving the therapist, growing, splitting, ceasing to age, reproducing, coalescing, going into "inner hibernation," and changing their characteristics depending on which personality preceded or followed their appearance.

In summary, knowing how to test or prove an assertion that an individual has more than one personality, or how to clinically distinguish between personalities, ego states, identities, fragments, personality states, or the like, is impossible in the absence of agreement about what any of these terms mean (Dinwiddie et al. 1993; Aldridge-Morris 1993, ch. 1). It follows, then, that few limits exist to the number of "personalities" one may unearth. The number is restrained only by the interviewer's energy and zeal in searching, and by his or her subjective—and perhaps idiosyncratic—sense of what constitutes an alter (Dinwiddie et al. 1993).

Enthusiasts thus expand the concept of personality beyond all bounds. If such a grandly expansive definition is employed, finding thousands of MPD "patients" becomes simple. Without clear behavioral criteria allowing the observer to know when a personality has been encountered, the term *personality* comes to mean anything and everything patient and clinician want it to. It thus comes to mean nothing.

The second affliction of the house of MPD is laid bare by one startling fact: the disorder's most dramatic signs appear after, not before, patients begin therapy with MPD proponents.



Those eventually given this diagnosis seek professional help because of many different kinds of psychiatric difficulties. When first presenting for treatment, these patients can exhibit signs or symptoms of each and every psychiatric condition (Coons et al. 1988; Putnam et al. 1986; Bliss 1984). One complaint, however, is conspicuously absent: evidence of separate alter personalities (Brick and Chu 1991; Franklin 1990; Kluft 1984a; Kluft 1985a; Ross 1989, 93).

But when the patients enter MPD-focused therapy, signs of alters' behaviors skyrocket. For instance, one patient's guest personalities created apparent grand mal seizures (Kluft 1995); another sold drugs when the host was supposed to be at work (the host would supposedly "come to" miles away) (Putnam 1989, 198). According to proponents, much of the behavior of MPD patients results from alters' "personified intrapsychic conflicts" (Putnam et al. 1986, 291); the personalities create crises in the patient's life by attempting to dominate, sabotage, and destroy one another (Kluft 1983; Kluft 1984c). As one example, an alter may lead the patient into compromising circumstances—say, a sexual encounter, an episode of firesetting, or an illegal drug purchase. This personality then vanishes, leaving the patient, who "wakes up" not knowing how he or she got into the situation, to handle the problem (Confer and Ables 1983; Kluft 1991b).

MPD patients often significantly deteriorate during treatment (Kluft 1984c; Ofshe and Watters 1994, ch. 10; Pendergrast 1995, ch. 6). One of the disorder's leading adherents acknowledges that MPD psychotherapy "causes significant disruption in a patient's life outside the treatment setting" and that suicide attempts may occur in the weeks following the diagnosis (Putnam 1989, 98, 299). As MPD psychotherapy progresses, patients may become more dissociative, more anxious, or more depressed (Braun 1989); the longer they remain in treatment, the more florid, elaborate, and unlikely their stories about their alleged childhood maltreatment tend to become (Ganaway 1995; Spanos 1996, ch. 20). This wors-

ening contributes to the lengthy hospitalizations—some costing millions of dollars (*Frontline* 1995; Piper 1994b)—that often occur when MPD patients who are well-insured are treated by the disorder's enthusiasts. Hospitalizations occur more frequently after the MPD diagnosis is made (Piper 1994b; Ross and Dua 1993).

MPD-focused therapists have struggled mightily to explain these rather embarrassing results of their interventions. Examining these explanations is beyond the scope of this article: see Piper 1995; Piper 1997; Simpson 1995. However, several recent malpractice juries have found the explanations unimpressive. The juries have preferred a simple and logical explanation for the worsening status of these patients: patients worsen after beginning MPD-focused therapy because therapists cause them to do so—by, among other things, encouraging ever-more-dramatic displays of "alters."

MPD's most dramatic signs appear *after*, not before, patients begin therapy with MPD proponents.

One important way in which therapists encourage such displays is to behave as if alter personalities were real. For example, leading authorities in this field routinely call alters out, hypnotize them, engage in "lengthy monologues" with them, name them, establish treatment alliances with them, talk to their stuffed animals, take them for walks to McDonald's ("The outside world often seems very big and frightening to child personalities"), engage in playful parody and sarcasm with them, allow them to work on age-appropriate childrens' projects in occupational therapy ("to show respect for the alter"), and recruit one alter to keep another from hurting still a third (Ross 1989, 227, 252–254; Ross and Gahan 1988). Other MPD adherents encourage alters to solve problems among themselves, to learn the Golden Rule, to participate in "internal group therapy," and even to decide whether or not the host should enter treatment (Caul 1984; Kluft 1993; Ross 1989, 209).

In 1988, Vincent and Pickering noted that in the published reviews of the literature, exactly *one* case presenting in childhood was reported in the 135 years prior to 1979. After reviewing the literature published since 1979, they were able to gather a mere twelve cases. (It seems, however, that Vincent and Pickering had to stretch a bit to find even those—four of the twelve were examples not of MPD, but rather of something the authors called "incipient MPD.") Nine additional cases were found by Peterson (1990).

These minuscule numbers, standing in stark contrast to the thousands of adult cases discovered in recent years, reveal the third weakness: if MPD results from child abuse, then why have so few cases been discovered in children?

The fourth and final weakness of the house is that it is built in a bog, namely, the belief that childhood maltreatment causes MPD. The literature strongly implies that childhood trauma has been unequivocally established as the primary cause of the disorder, and that severe sexual abuse more or less directly leads to MPD (Braun 1989, 311; Ellason and Ross 1997; Putnam 1989, 47; Ross 1989, 101; Ross 1995, 505; Schafer 1986).

Several commentators have recently noted this formulation's deficiencies. Esman (1994) warns of the dangers of attempting to discover unitary causes of psychiatric disorders; he urges "measured skepticism" about assigning a role for sexual abuse, independently of other aspects of disturbed family function, in the genesis of later adult psychopathology. Numerous investigators, raising similar cautions, state that general family pathology in childhood better predicts adult dysfunction than does childhood sexual abuse alone (Bifulco et al. 1991; Fromuth 1986; Harter et al. 1988; Levitt and Pinnell 1995; Nash et al. 1993). Further, studies repeatedly note the difficulty of separating effects of abuse from the "matrix of disadvantage" giving rise to that abuse (Nash et al. 1993; Bushnell et al. 1992; Hussey and Singer 1993; Mullen et al. 1993). And finally, recent studies warn of the "very real uncertainties that surround evidence" concerning the relationship between childhood sexual abuse and psychiatric disorders (Fergusson et al. 1997), and conclude that available evidence to date does not support sweeping generalizations about childhood sexual abuse as an isolated cause of adult psychopathology (Beichtman et al. 1992; Finkelhor 1990; Levitt and Pinnell 1995).

The evidence for and against a relationship between trauma and dissociative pathology has also been examined. The data should "inspire skepticism, or at least serve to mute the grand conclusions about univariate cause and effect between trauma and dissociation that abound in the professional and lay literatures" (Tillman et al. 1994, 409).

Yet another weakness of this literature is inadequate verification of its child-abuse claims (Frankel 1993; Piper 1994a; Piper 1997). MPD patients very often report bizarre and extremely improbable experiences. For example, in a recent case familiar to the author, one patient claimed to have witnessed a baby being barbecued alive at a family picnic in a city park; another patient alleged repeated sexual assaults by a lion, a baboon, and other zoo animals in her parents' back yard—in broad daylight. (It should be mentioned that both therapists in these cases are prominent MPD adherents, and neither appeared to have any difficulty believing these allegations). Despite the frequency of claims of this type, "repressed memory patients are seldom referred to medical doctors for examination and possible corroboration of past abuse [though one would assume that] the horrific physical abuse allegedly experienced . . . would require medical care at some point" (Parr 1996). (Space limitations limit discussion of this weakness; see Jones and McGraw 1987; Lindsay and Read 1994; Ofshe and Watters 1994; Pendergrast 1994, chs. 3–5; Spanos 1996, ch. 20; Wakefield and Underwager 1995, ch. 10).

The logic of the claim that childhood trauma causes MPD demonstrates a final serious flaw. If the claim were true, the abuse of millions of children over the years should have caused many cases of MPD. A case in point: children who endured unspeakable maltreatment in the ghettoes, boxcars, and con-

centration camps of Nazi Germany. However, no evidence exists that any developed MPD (Bower 1994; Des Pres 1976; Eitinger 1980; Krystal 1991; Sofsky 1997) or that any dissociated or repressed their traumatic memories (Eisen 1988; Wagenaar and Groeneweg 1990). Similarly, the same results hold in studies of children who saw a parent murdered (Eth and Pynoos 1994; Malmquist 1986); studies of kidnapped children (Terr 1979; Terr 1983); studies of children known to have been abused (Gold et al. 1994); and in several other investigations (Chodoff 1963; Pynoos and Nader 1989; Strom et al. 1962). Victims neither repressed the traumatic events, forgot about them, nor developed MPD.

Concluding Comments

In the epigraph that begins this article, Upham speaks of the excesses of the seventeenth-century New England witchcraft craze. The story of Sarah Good exemplifies those excesses (Rosenthal 1993). In March of 1692, when thirty-eight years old and pregnant, she heard her husband denounce her to the witchcraft tribunal. He said that either she already was a witch, "or would be one very quickly" (Rosenthal 1993, 89). No one had produced evidence that she had engaged in witchcraft, no one had seen her do anything unusual, no one had come forward to say they had participated in satanic activities with her. But no matter.

On July 19, 1692, Sarah Good died on the gallows.

Three hundred years later, a woman in Chicago consulted a psychiatrist for depression (*Frontline* 1995). He concluded that she suffered from MPD, that she had abused her own children, and that she had gleefully participated in Satan-worshiping cult orgies where pregnant women were eviscerated and their babies eaten. Her failure to recall these events was attributed to alters that blocked her awareness. No one had produced any evidence for the truth of any of this, no one had seen her do anything unusual, no one had come forward to say they had participated in satanic activities with her. But no matter.

The doctor notified the state that the woman was a child molester. Then, after convincing her that she had killed several adults because she had been told to do so by satanists, he threatened to notify the police about these "criminal activities."

The woman's husband believed the doctor's claims. He divorced her. And, of course, because she was a "child molester," she lost custody of her children.

Charles Upham recognized the importance of erecting barricades against addlepated ideas blown by gales of illogic. The twentieth-century fad of multiple personality disorder indicates that even after a third of a millennium, such bulwarks have yet to be built.

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Note

1. In the fourth and latest edition of the American Psychiatric Association's *Diagnostic and Statistical Manual,* the disorder has been renamed. Although the third edition called the condition MPD, the fourth calls it *dissociative identity disorder.* The differences between the two disorders' diagnostic criteria are slight and mainly cosmetic: in the newer criteria, terms such as *identities* or *personality states* are employed, rather than the older *personalities.* Also, the newer definition emphasizes the patient's inability to recall important personal information.

Whether the newer term will become popular has yet to be seen; because *MPD* has the distinct advantage of familiarity, it will be used in this paper. □

ARMAGEDDON and the Prophets of Doomsday

2nd World Skeptics Congress

Heidelberg, Germany

July 23–26 1998

Sponsored by **CSICOP**

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Thursday, July 23

Plenary 1: Millennium Prophesies

Conference Opening Address:
Fears of the Apocalypse
Paul Kurtz, Chairman CSICOP

Doomsday Fantasies Among New Religious Groups
Hartmut Zinser

Significance of the Millennium
Mark Kingwell, Professor of Philosophy, University of Toronto

The Bible and the Prophets of Doom
Gerald Larue, Professor of Biblical Archeology, University of Southern California

The Bible Code
Dave Thomas, physicist, Albuquerque, NM

Alternative Medicine (E)

Homeopathy In Europe
Willem Betz, Prof. Academish Centrum voor Huisartsgeneeskunde VUB, Belgium

Why Alternative Medicine Seems to Work
Barry Beyerstein, Professor of Psychology, Simon Fraser University

Alternative Medicine In A Scientific World
Wallace Sampson, M.D., editor, Scientific Review of Alternative Medicine, Professor, Stanford University

The Fear of Amalgam Tooth Fillings in Germany
Rainer Schiele

Workshop on Critical Thinking (E)
Ray Hyman, Professor of Psychology, University of Oregon
James Alcock, Professor of Psychology, Glendon College, York University, Toronto

Ad hoc Meetings: Philosophers Meeting, other meetings possible

Keynote Address
Elizabeth Loftus, Professor of Psychology, University of Washington

Friday, July 24

Plenary 2: Natural Disasters

Predicting the Catastrophic End of Time
Cornelis de Jager, Prof. of Astrophysics, Univ. of Utrecht, Netherlands

Comet Hale-Bopp: Portent of Disaster?
Alan Hale, Southwest Institute for Space Research, co-discoverer, Comet Hale Bopp

Doomsday: The May 2000 Prediction
Tim Trachet, journalist, Flemish Public Broadcasting Corporation, Belgium

Cosmic Impacts—Do They Pose a Significant Threat?
James McGaha, Major, U.S. Air Force Retired

Environmental Issues

The Great Climate Flip-flop
William H. Calvin, affiliate Professor at the University of Washington School of Medicine

Global Warming and What We Can Do About It
Thomas Casten, President and CEO, Trigen Energy Corporation

Miscellaneous (E)

Theosophy and Anthroposophy in Education in Asia, Europe and America
Herman de Tollenaere, historian, Netherlands

Why the Scheunen Experiments do not Prove Dowsing
Jim Enright

Strange Metals in Antiquity
Gerhard Eggert

Selbsthifegruppen und Krebsinformation (D)
Cancer, Multiple Sclerosis, Allergies
Parallel session with separate registration

Kritisches Denken im Bildungssystem (D)
Verantwortlich: Wolfgang Hund, Werner Schulz

German Panel/Public Participation
"Lebensberatungsgesetz" (bill to regulate the psychic market, which is seriously opposed by psychics and astrologers)
Panel: Hartmut Zinser, Angelika Köster-Lossack, Ursula Caberta

Saturday, July 25

Plenary 3: Visions of the Apocalypse
Mario Mendez Acosta, Chairman SOMIE (Mexican Association for Skeptical Research)
Tim Madigan, Executive Editor, *Free Inquiry* magazine

Evolutionary Eschatology and the Omega Point
H. James Birx, Professor of Anthropology, Canisius College
Edmund Cohen, author, *The Mind of the Bible Believer*

Why People Believe
Lewis Vaughn, author, *How to Think About Weird Things*

Doomsday Prophecies
James Lewis, Dept. of Religious Studies, University of America

Case Studies (E)
Richard Wiseman, Prof. of Psychology, Univ. of Hertfordshire, United Kingdom
Jean-Paul Krivine, Cercle Zététique, France
Joe Nickell, Senior Research Fellow, CSICOP

Alternative Medizin (D)

Der Orgonstrahler
Imgard Oepen

Ein Uberblick der Neueten Studien
Jurgen Windeler

Der Binnenkonsens heute
Barbara Burkhard

Was macht die alternative Medizin so attraktiv
Elisabeth Nuchtern

Best-case Analysen
Gerd Buschel

Banquet and Boat trip
Paul Kurtz
Amandeo Sarma
Richard Wiseman
Light Music, Brazilian Dance, Comedy and Magic

Sunday, July 26

Plenary 4: Prospects for Scientific Skepticism Worldwide
Sergei Kapitza, Russia Academy of Sciences: Science and Pseudoscience in Russia
Vern Bullough, speaker: The Recovered Memory Debate
Ken Frazier, *Skeptical Inquirer* Magazine
Mike Hutchinson, *Skeptical Inquirer* rep. in Europe
Luis Alfonso Gamez, journalist, *El Correo*, Spain
Evry Schatzman, President, French Physical Association

GWUP members meeting

(E): English (D): German

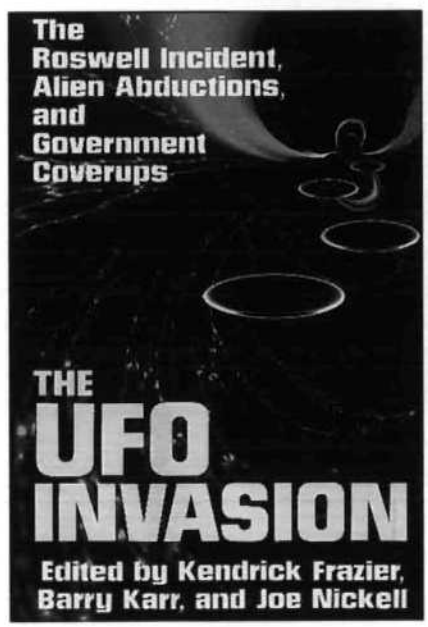
Skeptics Attack Bug-eyed Monsters from Space!

PETER HUSTON

The UFO Invasion: The Roswell Incident, Alien Abductions, and Government Coverups. Edited by Kendrick Frazier, Barry Karr and Joe Nickell. Prometheus Books, Amherst, New York 1997. ISBN 1-57392-131-9. 315 pp. Hardcover, $25.95.

Sometimes a book reviewer's job is appallingly simple. Since this book contains reprints of some of the best SKEPTICAL INQUIRER articles about UFOs, if you like this magazine, and are interested in UFO claims, then you will like this book. If you don't like this magazine (but perversely read it anyway), then, naturally, you won't like this book (but might read it anyway, I suppose). No favoritism there, I hope. Yet even rabid UFO believers and other antiskeptics should find this book of value, as it contains a good, single-volume collection of some of the most important skeptical writings produced on this subject to date.

Essays are grouped into the following categories: The UFO Enigma (a general introduction and overview); The Crash at Roswell; Roswell and the "Alien Autopsy"; Other UFO Cases (mostly explanations of some sightings of flying objects); Alien Abductions; Crop Circles; and Extraterrestrial Intelligence. Contributors include Robert Baker, Robert Bartholomew, Robyn M. Dawes, Eugene Emery, John F. Fischer, Thomas R. MacDonough, Lloyd Stires, David E. Thomas, James Oberg, and Philip J. Klass (of course), among others. In fact, one thought that went through my mind as I read the essays in this collection was amazement at the amount of work that many very talented people have put into investigating the entire realm of UFO claims despite long ago having come to the conclusion that it was quite unlikely, to say the least, that UFOs were objects of much significance.



Page after page, we have reports of highly intelligent people analyzing documents such as the MJ-12 papers (allegedly detailing a Truman-era presidential memo about a crashed saucer) to prove that it is a forgery. Elsewhere, medical professionals and special effects experts debate the truth or fiction of the "Roswell alien autopsy" film, concluding for several reasons that the film is a hoax (i.e. why can't the highly trained government personnel keep their camera in focus at the important parts?). It's interesting to speculate about the motives of the skeptical investigators. But then again, speaking from experience, the bottom line is that reading about strange claims is fun. And looking into them in detail, a.k.a. investigating them, is often more fun than simply reading about them, as well as an interesting mental challenge. And, finally, when all is said and done, it's my firm belief that the skeptics often simply produce better grounded results, more able to stand up to long-term criticism than that of many believers, who, instead, opt for easily disproven, much more fanciful theories involving space visitors and giant conspiracies. Besides, inevitably, the facts are more interesting than such fiction, and such research does indeed inevitably touch on many fascinating subjects.[1]

The last section primarily concerns *SETI* (the Search for Extraterrestrial Intelligence) and the possibility of alien intelligence. As UFOs and extraterrestrial intelligence are intertwined in many people's minds, the inclusion is probably quite welcome and both essays quite interesting. One, Zen Faulkes's "Is Intelligence Inevitable?," has been extensively updated for this volume.

Personally, being more of an amateur psychologist than an amateur astronomer, the part I found most interesting was the section on alien-abduction claims. This included a well-done,

Peter Huston is author of Scams from the Great Beyond *and other books.*

completely new, unpublished essay (the only one in the book), "No Aliens, No Abductions; Just Regressive Hypnosis, Waking Dreams, and Anthropomorphism," by Robert Baker, CSICOP Fellow and professor emeritus of psychology.[2] This details the way in which sleep paralysis and waking dreams often lead to strange experiences which can be interpreted as otherworldly visitations. When the initial experience is combined with misuse of hypnosis to "recover" the memories, the actual events of the situation can be completely distorted, being replaced instead by confabulations of quite a dramatic nature. Baker states that at least four contemporary legends directly relate to the misuse of regressive hypnosis—UFO abductions, false memories of childhood abuse, the myth of Satanic ritual abuse, and the myth of widespread multiple-personality disorder.

Other essays describe the argument that many "UFO abductees" exhibit signs consistent with a fantasy-prone personality. Here I was a little bit less comfortable. Although it is clear that some of us humans have less of a grasp on reality than others, I also believe some skeptics may be overly quick to thrust this label upon anyone who might claim an experience that cannot be easily explained. This could easily become a pretext to dismiss things that should be looked into more deeply, including other psychological or sensory anomalies. Personally, I believe skeptics should be quite cautious about labeling their opponents as suffering from personality disorders, for several ethical, public relations, legal, and methodological reasons; besides if we don't, we might dismiss something interesting out of hand while simultaneously alienating the general public. (If we are quick to label believers as "fantasy prone," they, inevitably, will begin labeling us, with some justification, as suffering from an "obsessive compulsive need to overcompensate for our repressed fantasy-prone tendencies.")

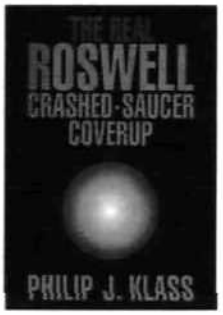
Of course, I expect my reactions are typical of many readers of this volume. Most will love some essays, while simultaneously wishing they had the chance to post a letter to the editor about others. (But that's what critical thinking is all about.) Sadly most of the original illustrations are not reproduced.

Nevertheless, these are minor criticisms. All in all, this work is a fine, one-volume collection of some of the best articles ever collected in the SKEPTICAL INQUIRER. It should make a welcome addition to many skeptics' personal libraries. Better yet, this book would be a valuable addition to almost any good school, college, or public library, and skeptics shouldn't hesitate to recommend that such institutions acquire it.

Notes

1. Some day, I wish that science educators would use scientific principles to explain "paranormal mysteries." I have received much of my science education from my interest skeptical books and publications about the paranormal.

2. As much as I respect Robert Baker, let me state that I disagree with his statement that anthropomorphic aliens are quite unlikely, and therefore an obvious human creation. Essentially he states that since many people argue that alien life is probably unbelievably alien, aliens should not resemble us. For another viewpoint, see "Design for Life" and the related writings of CSICOP fellow, engineer, and science fiction author L. Sprague DeCamp. DeCamp has argued that since our form obviously works reasonably well and efficiently it might be repeated elsewhere, although not exactly, of course, by an intelligent tool-using species which evolved from a four-limbed predecessor. DeCamp states that convergent evolution is quite possible and proven to exist on Earth. For example, in the air, bats, birds, and pterodactyls all evolved into roughly similar forms without necessarily sharing a common ancestry. In the water, dolphins, icthyosaurs, and fish all did the same thing. For the record, this does not mean that I believe in the existence of visiting "Greys," however. Why should I, when persons such as Baker have done such a fine job of explaining the phenomena involved without requiring the unprecedented presence of extraterrestrial visitors?



Demolishing the Roswell 'Alien' Myth

DAVID E. THOMAS

The Real Roswell Crashed Saucer Coverup. By Philip J. Klass. Prometheus Books, New York, 1997. ISBN 1-57392-164-5. 240 pp. Hardcover, $24.95.

The question isn't "Did an alien spaceship crash at Roswell in 1947?" The question is, why do many prominent UFO authors persist in claiming the Roswell Incident is still UFOdom's best case? In case there were still doubts, Phil Klass's new book should help settle them. His case against the Roswell "alien" myth is devastating.

Klass's previous books include *UFOs: The Public Deceived* and *UFO Abductions: A Dangerous Game,* both published by Prometheus books. He has spent over thirty years investigating famous UFO incidents, hoping to find credible, scientific evidence of extraterrestrial visitors. He currently publishes the Skeptics UFO Newsletter (SUN), and is a Fellow of CSICOP and chair of its UFO Subcommittee. Klass, in short, is well qualified to separate the truths from the myths about the alleged Roswell crashed saucer. Through impartial research and meticulous documentation, Phil Klass has written the definitive book on the Roswell myth.

Klass starts off with contemporary accounts from 1947—cold, hard facts that are not subject to the whims of memory. He details the UFO "craze" that swept the country in the summer of 1947, the Army Air Force announcement of the capture of a "flying disk," and the explanation of the find as weather balloons and radar targets.

David E. Thomas is a physicist. He is a SKEPTICAL INQUIRER consulting editor and is president of New Mexicans for Science and Reason.

Nowadays, UFO promoters maintain that the announcement of the "flying disk" came from high up the command—Col. Blanchard himself. (And, of course, top brass wouldn't have been fooled by a "balloon.") But original reports indicate that the "disk" claim came from *the intelligence office at the Roswell Army Air Force base*—namely, one man, Major Jesse A. Marcel.

After its correct identification as weather equipment, the Roswell event drew no attention for decades. Klass details how both leading UFO groups (NICAP and APRO) did not even mention Roswell in their lists of "most important UFO cases" submitted for the Condon Report in 1966.

Details of Marcel's earliest Roswell interviews, in February 1978, are provided by Klass. Marcel did not save any news clippings from this "historic" encounter; he couldn't even remember what year the incident took place.

Klass describes, and demolishes, the accounts of the long string of witnesses who waited decades before coming forward to claim their 15 minutes of fame: Grady Barnett, Glenn Dennis, Walter Haut, Gerald Anderson, Jim Ragsdale, Frank Kaufmann, Frankie Rowe, Col. Thomas Dubose, and more. Page 105 lists the wildly different estimates of the numbers of alien bodies (three living; three dead; four dead/one living; three dead; one living; and, one dead). The search for mortician Glenn Dennis's "missing nurse" (Naomi Marie Selff) is detailed, along with strong evidence that *she never existed*. Witness Anderson's diary copying and phone-record tampering severely damage his credibility.

Klass takes on all of the major pro-Roswell authors as well: Stanton Friedman, William Moore, Kevin Randle, Donald Schmitt, and others. He clearly documents how Friedman, Randle, and Schmitt all have changed the day rancher Brazel brought the debris into Roswell from Monday, July 7 (the actual day), to Sunday, July 6. They did so because that's the only way they could reconcile events with witness Dubose's testimony that the famous photographs of the debris in General Ramey's office were taken at least two days after the debris was supposedly flown from Roswell to Fort Worth. (In actuality, the pictures were taken the *same afternoon as the flight*). Original reports, and Brazel's comments that he came to Roswell to sell wool, clearly show that he did not go into town on the last day of a (then) rare three-day weekend. Klass also describes how author Donald Schmitt was caught faking his credentials.

The book also turns to UFO researcher Robert Todd's discovery of the connection of the debris to New York University experiments performed in support of secret project Mogul, and the further evidence for this explanation developed by physicist/balloonist Charles B. Moore, UFO author Karl Pflock, and by the United States Air Force. The General Accounting Office report was portrayed by New Mexico Congressman Steve Schiff as leaving unanswered questions regarding some missing message traffic. But, Klass points out that the bottom-line conclusion of the GAO report was completely missed by most of the media: there is not one shred of evidence in the archives of the federal government that lends any credence to the supposed alien crash at Roswell (or any other locale). He also relates how once pro-Roswell pilot Kent Jeffrey came to agree that the Roswell Incident was due entirely to misidentification of weather equipment.

A major theme of the book is the continuing coverup of the truth about Roswell—not by the government, but by producers and authors of television shows, movies, and books. Klass tells how he has repeatedly tried to get TV producers to show formerly secret documents that prove the US did not have any physical evidence of alien visitors, even after Roswell. And Klass tells how, time and again, the truth has ended up on the cutting-room floor.

Klass concludes the book by discussing his work at *Aviation Week and Space Technology*. *Aviation Week* has revealed so many sensitive aerospace secrets that many government employees disparagingly refer to it as "Aviation Leak." Yet, this fiercely independent magazine has never uncovered even a trace of a sinister coverup of alien visitation.

This book is a very valuable addition to the shelf of anyone with an interest in Roswell, or in the UFO movement in general. It does seem to hop around from topic to topic at times, and there is some unnecessary duplication. For example, a story from the Fort Worth *Morning-Star Telegram* appears on pages 17 and 18, but again (in its entirety) on pages 85 and 86. The same goes for the McCoy briefing (page 175, and repeated on page 208). But the biggest flaw of the book is the material that's missing, such as Klass' resounding debunking of the supposed "Majestic 12" forgeries. (Klass's MJ-12 exposés are nevertheless available in book form, reprinted in the 1997 *SI* anthology *The UFO Invasion*.)

When I give talks about Roswell, I always show how Klass found that President Truman's alleged signature on an MJ-12 letter was really just photocopied from a different, legitimate letter (see SKEPTICAL INQUIRER, Vol. 14, No.2, Winter 1990). As transparencies of both signatures are overlaid, the audience always gasps in surprise as the different signatures blend into a single trace. Incredibly, Stanton Friedman still maintains the validity of MJ-12. When I confronted him on a radio show last year, he said Klass's methods were shown false in his new book *Top Secret/Majic*. And what is Friedman's new attack on the signature analysis? "The signatures are clearly not identical." Simply outrageous!

Similarly, there was no mention of the supposed alien autopsy, or the *Penthouse* "photograph" of the alien's body. I'm hoping that someday, some of these gaps will be filled, and that we'll be treated to a second edition of this excellent book. But even with its minor omissions, this book destroys the "Roswell" mythos once and for all. ☐

NEW BOOKS

Listing does not preclude future review:

Aliens in America. **Jodi Dean.** Cornell University Press, Sage House, 512 East State Street, Ithaca, NY 114850. 1998. ISBN 0-8014-8468-5. 231 pp. Hardcover, $39.95, paperback, $15.95. An analysis of "aliens" in public culture and popular concerns by an assistant professor of political science at Hobart and William Smith Colleges. She examines how serious UFOlogists and their pop-culture counterparts tap into fears, phobias, and conspiracy theories with a deep past and a vivid present in American society. Her focus is on familiar alien themes and images that appear in contemporary media and popular culture.

Numerology or, What Pythagoras Wrought. **Underwood Dudley.** Mathematical Association of America, P.O. Box 91112, Washington, DC 20090-1112. 1997. ISBN 0-88385-524-0. 316 pp. Paperback. A lively look at numerology, the delusion that numbers have power over events. Number mysticism, the belief that contemplation of numbers can give mystical and nonrational insights into their nature and the nature of the universe is examined as well. Mathematician Dudley (DePauw University), also author of *Mathematical Cranks,* outlines the history of Numerology, and gives examples from the biorhythmists, the bible-numberists, the Pyramidologists, as well as the Elliott Wave theorists who apply numerology to the stock market.

The Roswell Report: Case Closed. **Captain James McAndrew.** Barnes & Noble, Inc. 1997. ISBN 0-7607-0814-2. 231 pp. Paperback, $12.95. This is a welcome commercial publication of an exact facsimile of the 1997 US Air Force Roswell report, *The Roswell Report: Case Closed.* Includes all text and photos in the original report. Concludes that the latter-day "alien bodies" aspect of the Roswell legend is apparently a cobbled together, time-muddled version of actual operations and tests [including dummy drop tests, high-altitude balloon experiments, aircraft escape system tests, and actual aircraft and balloon crashes] carried out by the Air Force in southern New Mexico in the 1950s. "The incomplete and inaccurate intermingling of these actual events were grounded in just enough fact to weave a sensational story, but cannot withstand close scrutiny when compared to official records." [See article in this issue, page 31.]

—Kendrick Frazier

ARTICLES OF NOTE

Cartmill, Matt. "Oppressed by Evolution." *Discover,* March 1998, pp. 78–83. For more than a hundred years Darwin's unifying theory of natural selection has been the accepted wisdom in biology, but now biologists find themselves defending evolution against attacks not only from the religious right but from the academic left as well. A physical anthropologist examines this strange situation and counsels scientists to understand the subtleties of opponents' motivations in order better to represent the scientific viewpoint.

Gargan, Edward A. "For Heaven's Sake, Don't Fly a U.F.O." The *New York Times,* February 27, 1998, p. A4. Article from Taiwan about Ho Hsien-jung and his Chinese Flying Saucer Research Foundation and the much more extreme Chen Heng-ming and his God Saves the Earth Flying Saucer Association, which has moved with a hundred followers from Taiwan to Texas where they believe they will "be meeting God, who would arrive on a flying saucer to save them" and then be whisked to Mars.

Grady, Denise. "Journal Casts a Cold Eye On Alternative Medicine." *New York Times,* December 30, 1997. News report on establishment of *The Scientific Review of Alternative Medicine,* dedicated to applying rational analysis to alternative treatments.

Jacoby, Susan. "Psychics, Psychics Everywhere." *Ladies Home Journal,* January 1998, pp. 46–50, 54. More and more women today are consulting clairvoyants. Author examines the reasons why (women are more likely than men to seek all types of help and counseling) and asks if there is any evidence that predictions or information gained from psychic readings have any more value than, say, a talk with a friend. She presents evidence that they do not.

Kelly, I. W. "Why Astrology Doesn't Work." *Psychological Reports,* 82: 527–546, 1998. Author's abstract: "The survival and longevity of astrology has been dependent on an astrological community that will, under no circumstances, allow it to fail. Consequently, a large array of ad hoc hypotheses (escape routes) have been marshaled over the years to prevent contrary evidence from being used to confront central tenets of astrology. The result is a closed system with little, if any, empirical grounding. It is further argued that the fit of people to birth charts (horoscopes) lies in several unremarkable, lax rules of astrological interpretation."

Krupp, E. C. "A Tale of Two Cities" *Sky & Telescope,* January 1998, pp. 80–81. "It was the age of wisdom. It was the age of foolishness." Rumination on the contrast between two celebrations last July—Pasadena's planetfest with 8,000 people viewing live photos from the surface of Mars from the Mars Pathfinder spacecraft and Roswell's UFOfest, when 40,000 UFO enthusiasts "abducted themselves" to Roswell to observe the 50th anniversary of an alleged flying saucer crash. For other "Rambling Through the Skies" *Sky & Telescope* columns of interest by astronomer (and CSICOP Fellow) Krupp, see "Year Star Omens," February 1998 ("It's no coincidence that both Jupiter's circuit through the ecliptic and Chinese astrology follow a 12-year cycle"), and "In the Wake of Heaven's Gate," September 1997.

Laverty, W. H., and I. W. Kelly. "Cyclical Calendar and Lunar Patterns in Automobile Property Accidents and Injury Accidents." *Perceptual and Motor Skills,* 86: 299-302, 1998. Authors' abstract: "Nine years of traffic accidents involving damage to property (n = 246,926 accidents) and involving nonfatal injury (n = 50,492) in Saskatchewan were examined by regression and spectral analyses. Both calendar and seasonal periodicities were found in both sets of data. After data were adjusted for calendar effects, no relationship was found with the total or half synodic and anomalistic lunar cycles or between the waxing and waning synodic cycle. No sudden change on the day of the full moon or surrounding days was found."

Mukerjee, Madhusree. "Undressing the Emperor." *Scientific American,* March 1998, pp 30–32. Profile of the physicist and *Social Text* prankster Alan Sokal. Since his widely

publicized 1996 hoax article poking at the pretensions of some postmodernist philosophers, Sokal and Belgian physicist Jean Bricmont have fired another salvo. Their book *Imposteures Intellectuelles*, so far published only in French, targets sloppy thinking on the part of French and other postmodernists, social constructivists, cognitive relativists, and sundry other "-ists." Article also reports on some of the subsequent falling outs in these "science wars."

Ortega, Tony. "The Hack and the Quack." *Phoenix New Times.* Vol. 29 No. 10, March 5–11, 1998, pp. 30–40. Lengthy investigative cover article (cover title: "Starship Stupors") by a skeptical journalist about the "hackery and quackery" surrounding bizarre media-hyped claims that the "Phoenix Lights" of March 13, 1997, represent alien craft or entities. Ortega, with persuasive support from local scientists, shows that Jim Dilettoso, who says he's done spectral analysis of videotape showing the lights could not be flares from military aircraft on a training mission, cannot be correct. Ortega follows the other characters in this bizarre drama and quotes an Arizona State University astronomer: "I become quite offended when people pull this sort of nonsense. . . . Why should people care? Because it's so high profile and they've been told lies."

Rubin, Alan. "Paucity of Aliens." *Griffith Observer*, July 1997, pp. 2–14. A UCLA planetary scientist, provoked by fantastic stories of abundant alien encounters, provides a sober assessment of whether there are likely to be any alien technical civilizations at all. He argues that while there may be a plurality of planetary systems in the universe and possibly also an abundance of living organisms, it does not follow that there should be many technical civilizations.

Tonkin, Boyd. "The Real Mystery of the Sphinx: Why Do Falsehoods Drive Out Truth?" *The Independent* (U.K.), February 10, 1998, p. 17. Lengthy commentary laments the proliferation of new books emphasizing highly speculative and fanciful ancient history and asks why publishers don't take their authors to task and insist on higher standards. "It is clear that Britain's once-reputable publishers no longer care two grains of desert sand about the truth-value of the 'history' books they finance." The book trade is contributing to the dumbing-down of society "by putting its resources behind every superstitious New Age bandwagon that rolls along."

Truzzi, Marcello. "Reflections on the Sociology and Social Psychology of Conjurors and Their Relations With Psychical Research." *Advances in Parapsychological Research* 8, 1997, pp. 221–271. Lengthy update of a 1983 conference paper on the similarities and differences in the worlds of psychical research and conjuring. Deals with, among other things, the values and limits of conjurors' views regarding the conduct and evaluation of parapsychological experiments.

Wilson, Edward O. "Back From Chaos." *Atlantic Monthly*, March 1998, pp. 41–62. Important, substantive essay by the noted naturalist about the excesses of fatalistic postmodernist thinking and what he sees as a strong possibility of a return to a greater unity of knowledge and more positive world outlook more typical of the Enlightenment. "In contrast to widespread opinion," writes Wilson, "I believe that the Enlightenment thinkers of the seventeenth and eighteenth century got it mostly right. The assumptions they made about a lawful material world, the intrinsic unity of knowledge, and the potential for indefinite human progress are the ones we still take most readily to heart, suffer without, and find maximally rewarding. . . . The greatest enterprise of the mind has and always will be the attempt to link the sciences and the humanities. The ongoing fragmentation of knowledge and resulting chaos in philosophy [with its pessimism about the possibility of real knowledge and about the existence of objective truth] are not reflections of the real world but artifacts of scholarship."

Wise, Donald U. "Creationism's Geological Time Scale." *American Scientist*, March-April 1998, pp. 160–173. Concerned about the increasing visibility and rhetoric of the creationism community, Wise, a professor of geology, has formulated a composite creationist time frame of geologic events. By highlighting both creationism arguments and those geologic facts most difficult for creationists to explain, it provides scientists clearer access to many creationist positions. As a strategy, Wise proposes that science should abandon its "traditional and failing method of item-by-item rebuttal of creationist attacks." Instead, he says, science should go on the offensive, using such a time scale to demand that creationists defend their total view of the geological record "and all their implausible and commonly ludicrous 'scientific' interpretations."

—Kendrick Frazier

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Could Experimenter Effects Occur in the Physical and Biological Sciences?

RUPERT SHELDRAKE

Probably most skeptics would agree with Michael Mussachia (1995) that "our beliefs, desires and expectations can influence, often subconsciously, how we observe and interpret things." In psychology and clinical medicine these principles are widely recognized, which is why experiments in these subjects are often carried out under blind or double-blind conditions.

In a double-blind clinical trial, for example, some patients are given tablets of a drug and others are given similar-looking placebo tablets, pharmacologically inert. Neither clinicians nor patients know who gets what.

In such experiments, the largest placebo effects usually occur in trials in which both patients and physicians believe a powerful new treatment is being tested (Roberts et al., 1993). The inert tablets tend to work like the treatment being studied, and can even induce its characteristic side-effects (White et al., 1985). Likewise, experimenter expectancy effects are well known in experimental psychology and also show up in experiments on animal behavior (Rosenthal, 1976).

Rupert Sheldrake taught biochemistry at Cambridge University and was a Research Fellow of the Royal Society. He is the author of Seven Experiments that Could Change the World *(Riverhead, New York). Mailing address: 20 Willow Road, London NW3 1 TJ, England.*

How widespread are experimenter expectancy effects in other branches of science? No one seems to know. I have attempted to quantify the attention paid to experimenter effects in different fields of science by means of two surveys.

The first survey was of experimental papers recently published in leading scientific journals, including *Nature* and the *Proceedings of the National Academy of Sciences* (Sheldrake, 1998). In the physical sciences, no blind experiments were found among the 237 papers reviewed. In the biological sciences, there were 7 blind experiments out of 914 (0.8%); in the medical sciences, 6 out of 102 (5.9%); in psychology and animal behavior, 7 out of 143 (4.9%). By far the highest proportion (but the smallest sample) was in parapsychology, 23 out of 27 (85.2%).

The second survey was of science departments at 11 British universities (including Oxford, Cambridge, London, and Edinburgh). It confirmed that blind procedures are rare in most branches of the physical and biological sciences. They are neither used nor taught in 22 out of 23 physics and chemistry departments, or in 14 out of 16 biochemistry and molecular-biology departments (Sheldrake, 1998). By contrast, blind methodologies are practiced and taught in 4 out of 8 genetics departments, and in 6 out of 8 physiology departments. Even so, in most of these departments they are used occasionally rather than routinely, and are mentioned only briefly in lectures.

Only in exceptional cases are blind techniques used routinely. This survey revealed three examples. All three involved commercial contracts, according to which the university scientists were required to analyze or evaluate coded samples without knowing their identity.

When academic scientists were interviewed for this survey, some did not know what was meant by the phrase "blind methodology." Most were aware of blind techniques, but thought that they were necessary only in clinical research or psychology. They believed that their principal purpose was to avoid biases introduced by human subjects, rather than by experimenters. The most common view expressed by physical and biological scientists was that blind methodologies are unnecessary in their fields because "nature itself is blind," as one professor put it. Some admitted the theoretical possibility of bias by experimenters, but thought it of no importance in practice. And one chemist added, "Science is difficult enough as it is without making it even harder by not knowing what you are working on."

The assumption by most "hard" scientists that blind techniques are unnecessary in their own field is so fundamental that it deserves to be tested empirically (Sheldrake, 1994). Not just in psychology and medicine but in all branches of experimental science we can

ask: Can the expectations of experimenters introduce a bias, conscious or unconscious, into the way they carry out their procedures, make observations, or select data?

I suggest the following empirical investigation. Take a typical experiment involving a test sample and a control, for example the comparison of an inhibited enzyme with an uninhibited control in a biochemical experiment. Then carry out the experiment both under open conditions and also under blind conditions, with the samples labeled A and B. In student practical classes, for instance, half the class would do the experiment blind, while the other half would, as usual, know which sample is which.

If such tests show no significant differences, then for the first time there will be evidence that blind techniques are unnecessary. On the other hand, significant differences between results under blind and open conditions would reveal the existence of experimenter effects. Further research would then be needed to find out how the experimenters' expectations were influencing the data.

The more independent investigations, the better. It cannot be healthy for the supposed objectivity of regular science to rest on untested assumptions. Perhaps it will turn out, after all, that "hard" scientists need not bother with blind techniques. They may indeed be exceptions to the principle that "our beliefs, desires, and expectations can influence, often subconsciously, how we observe and interpret things." On the other hand they may be like everybody else, including experimenters in psychology, parapsychology, and medicine. Who knows?

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Gimme That Ol'-Time Logical Consistency

RALPH ESTLING

That most prestigious of scientific magazines, *Nature*, writes of American scientists (physicists/astronomers, biologists, and mathematicians), revealing that about 40 percent believe in God and immortality (*SI*, September/October 1997). This follows on from a similar study conducted 80 years before. God is holding up pretty well but Immortality is down 12.6 percent. The biggest believers in God nowadays are mathematicians (44.6 for), the smallest, physicists/astronomers (77.9 against). Perhaps a look at British and continental scientists' opinions in these matters is now called for, although a questionnaire addressed to their colleagues in Japan could get complicated. (What is the sound of one Zen Buddhist computing pi to two billion decimal places?)

Do such surveys really matter and if so why? Yes, they do. Why? It boils down to whether or not scientists ought to demonstrate a degree of logical consistency, a rational continuum, that is more in evidence than it is among the rest of us. Most people seem to feel, if only vaguely, that scientists, by and large, are reasoning folk, and to make proper use of that reasoning a large dollop of logical consistency is needed. Hard-nosed, no-nonsense notions about quarks, mitochondria, and chaos theory ought to (so we surmise) go hand in hand with hard-nosed, no-nonsense notions about divinity and life eternal. That would be consistent and consistency is the hallmark of the scientific mind. Or so we conclude.

Alas. It will come as no surprise when I reveal that academic post-nominals in the physical life sciences or in math, professional status, white lab coats, bunsen burners, Nobel prizes, and government grants running into seven figures are no guarantors of intellectual depth or rigor, still less of common sense, nor should we expect them to be right.

The point is, what scientists do is what the rest of us do: compartmentalize. In *this* bit of the brain goes the General Theory of Relativity, Natural Selection, the Hertzsprung-Russell diagram, Transfinite Numbers, etc. In *that* part of the brain goes God and our immortal souls. And the two parts of the brain are kept carefully apart. The name of the game with scientists, as with non-scientists, is not, never was, consistency,

Ralph Estling writes from Ilminster, England.

but coexistence. They can juggle two directly opposing belief systems, without dropping either, as adroitly and for as long as it takes, can doublethink their way through logical deduction with as much skill and explain away the jarring contradictions as blithely and effortlessly. Conscience, although it is claimed to make cowards of us all, can be trained, with a little firm guidance, to see and accept the need for compromise and adjustment to circumstances. Scientists, in short, are people, and we had better remember this if we know what's good for us. Their opinions about euthanasia, abortion, the environment, cloning of humans, are to be sought but not worshiped, contemplated but not taken as gospel. Bertrand Russell was one of the world's great mathematicians, an astute philosopher, a true humanist, a fine rationalist, and an imbecile politician. Einstein, like Russell, could be execrable in his close personal relationships. Should we think less of them for that? As men, yes. As scientists, no. We have different pigeonholes for different components of the person. Hitler, bear in mind, like dogs, was sensible in his diet, didn't smoke, had an exemplary sex life, and profoundly respected the British Empire.

Our scientists are simply ourselves writ large and a bit more legibly. They are more knowledgeable in their fields thant we are and generally no more knowledgeable outside their fields. Their capacity for being logically consistent in their expertise may be greater, but their ability to delude themselves elsewhere is no less, than ours, especially though not exclusively in important personal matters, such as God and the afterlife. They can philosophize in their armchairs on things about which they know little and come to as stupid and vapid and toe-curling embarrassing conclusions as anyone born of woman. The best and wisest among them will admit this.

The only thing mildly surprising to me about the survey in *Nature* is that biological atheists don't outnumber physical/astronomical atheists. One would think they would, developments in biology these past 50 years or so being what they are. Particle physicists, astrophysicists, and cosmologists are always talking about the Mind of God and what He has been getting up to all this time and how science can put us in better touch with Him, something biologists rarely do these days, although they used to in the years before Watson and Crick, when being an atheistic biologist was considered bad form and J. B. S. Haldane was frowned on by Julian Huxley and never invited to take tea in polite society. But of course, this was a survey of *American* scientists. They order these things differently over there.

The *Nature* piece concluded with what they called "the poignantly captured struggle" of one poor Harvard professor who "when backed into a corner, as it were" came down "on the side of non-belief," yet frequently tries to "open my mind" to "the religious traditions by saying that I am praying to God."

And you can't ask for much more in the way of poignantly captured struggles than that. □

BEFORE *ROSWELL*

from page 30

on board ([Dunedin] *Evening Star*, July 31, 1909). In Scandinavia during the 1930s, mysterious "ghost aeroplanes" were frequently spotted. On February 5, 1933, several Norwegians became convinced that the "ghost flier" had crashed into Mount Fagar. A police search party revealed nothing (*Svenska Dagbladet*, February 7, 1934). During World War II, the British government was reported to have captured a crashed saucer and tiny aliens (Good 1997, 21). In 1946, dozens of UFOs reportedly crashed in Scandinavia after rumors that the Soviets were test-firing V-rockets. No confirming evidence was ever found, despite intense military investigations (Liljegren and Svahn 1989).

If there is any mystery surrounding accounts of crashed UFOs, its solution lies not in examining some secret military hangar, but in examining the human mind. We need to ask ourselves, What makes this myth so appealing? Folklorist Jan Brunvand (1981, 21) contends that for legends to persist in modern society "as living narrative folklore," they must contain three key elements: "a strong basic story-appeal, a foundation in actual belief, and a meaningful message or 'moral.'" Accounts of crashed saucers and government coverups easily meet each of these criteria. They make for fascinating reading and discussion, and are rendered plausible by the many dubious books, pseudoscientific "docudramas," and speculative movies that suggest their existence. These narratives contain a poignant message about a secular age that has used science and reason to expel gods, ghosts, and demons from our minds. Ironically, these haunting images have been replaced with more plausible contemporary themes: a world of government mistrust, nefarious conspiracies, and alien abductors. Ironically, as scientists delve deeper into the mysteries of our universe, they generate more questions. New scientific discoveries continue to reveal a world that is every bit as fascinating as that any science fiction writer could envisage.

Acknowledgments

I thank Thomas Bullard for providing most of the press reports.

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FRINGE-WATCHER

from page 15

future," he concludes, "will reveal to what use humanity will eventually put this remaining fire of the gods. . . ."

Many of Puthoff's recent conjectures are far out on the fringes of physics. He believes that gravity may be caused by ZPE in a manner similar to the way it causes the Casimir effect. He suggests that electrons are kept in their atomic orbits by ZPE, and that if atoms could be "shrunk" to a lower ground state they would radiate ZPE. Inertia, he thinks, may be caused by resistance of ZPE whenever objects are accelerated. If this resistance could be reduced, it would provide a great advance in the rocket propulsion speed of spaceships. In "SETI, the Velocity-of-Light Limitation, and the Alcubierre Warp Drive: An Integrating Overview" (in *Physics Essays*, Vol. 9, 1996, pp. 156–58), Puthoff defends the possibility that spaceships could travel faster than light if the ZPE could be handled properly.[3]

Just as Puthoff and Targ were able to obtain millions in funding dollars for their SRI research on remote viewing, so Puthoff is now raking in considerable funds from sources he prefers not to disclose. Many physicists are dismayed by this because they regard Puthoff's views as pseudoscience that is diverting funds from more promising investigations. It remains to be seen if in the next few decades this eccentric physicist will turn out to be one of the greatest scientists of all time, or whether his ZPE speculations and work will blow away like the flawed research he supervised when he and Targ were in their glory days at SRI.

Notes

1. For details on the remote viewing of atoms, consult *Extrasensory Perception of Quarks* (Theosophical Publishing House, 1980), by British physicist Stephen M. Phillips; his two-part article "Extrasensory Perception of Subatomic Particles," in *Fate* (April and May 1987); and "Resolution in Remote-Viewing Studies: Mini- and Micro Targets," by Puthoff, Targ, and Charles Tart, an SRI report of June 1979.

2. Puthoff is so quoted in "Power Structure," by Tom Chalkey, in Baltimore's *City Paper*, June 29, 1990.

3. Arthur C. Clarke, in his 1997 novel *3001*, takes Puthoff's conjecture about inertia seriously enough to base an inertial space drive on ZPE. See Chapter 9 and notes on this chapter at the back of the book. □

A SKEPTIC IN ROSWELL

from page 43

during the actual Fourth of July weekend. I was afraid Roswell would resemble a cross between Woodstock and *The X-Files*, and I wanted no part of it. But I did come back to town that Sunday afternoon, in time to catch the tail end of the celebrations going on at the civic center. Just out of curiosity, I took a peek.

The civic center was jammed with salespeople hawking every conceivable UFO souvenir. Besides the ubiquitous T-shirts, there were porcelain pins depicting an alien face, sticky green "alien goo," and hand-painted ceramic plates with maps showing the location of the crash site. I saw pewter spacecraft jewelry, silver alien-face necklaces, videos, rubber stamps, bumper stickers, spaceship cookies, and every conceivable souvenir item in the world, all in the outer-space theme. The *Roswell Daily Record* had a prominent display, including the usual coffee mugs and T-shirts, along with full-sized reproductions of its original 1947 front-page story about a flying disc. Outside, parking lots were jammed with cars sporting license plates from Oregon, Vermont, Arkansas, and many other exotic places.

Some experts in mass hysteria warn us of the dangers of UFO legends, with the associated whisperings about government coverups and other paranoid ideas. Elaine Showalter, author of *Hystories*, theorizes that the UFO mania feeds off the same insanity that fuels the likes of Timothy McVeigh. Personally, I think the rumors about satanic cults and "repressed memories" are a more immediate danger to society. So, as a skeptic living in Roswell, I usually keep quiet about my views on the UFO issue, preferring to crack the repressed-memory *nuts*.

If it were up to me, Roswell would stop advertising itself as the UFO capital. I would prefer to see this town gain notoriety for its dairy industry, or its cheese factory, or as a producer of lollipops. The local candy factory does produce ordinary round lollipops, but of course it also produces glow-in-the-dark alien suckers that come in neon pink, green, or blue.

There is something rather poetic about an alien sucker. □

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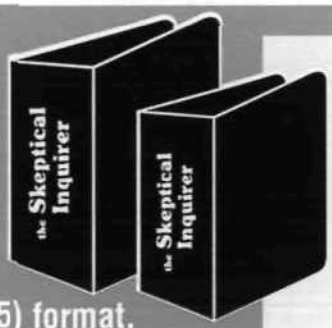

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Absence of Evidence

Jonathan Adler's defense of closed-mindedness ("Open Minds and the Argument for Ignorance," January/February 1998) rests on a dubious definition of the term: "ruling out vast numbers of hypotheses prior to examination." By "ruling out" he seems to mean dismissing a hypothesis, rather than exploring it, on the grounds that it is extremely unlikely to be true. This is closed-minded? In conventional usage, closed-mindedness is the state of being unconvincible, and unconvincibility is not what Adler is advocating (I hope). What benefits justify stretching the term so far as to obscure important distinctions?

Howard Gabennesch
Professor of Sociology
University of Southern Indiana
Evansville, Ind.

Jonathan Adler is dismissive of the phrase "absence of evidence is not evidence of absence." He insists that "absent evidence is real evidence," and cites Conan Doyle's famous dog that did nothing in the nighttime—no barking was heard, so the dog must have known the horse thief. Now, Conan Doyle was careful to place two stable boys within earshot, but if the nearest human had been a mile away this absent evidence would have been no evidence at all. We can only interpret our failure to detect evidence if we know how likely we were to detect that evidence if it were present. Absence of evidence may be evidence of absence—but it depends how thoroughly we searched. One black crow is poor evidence for the non-existence of white crows—we should check a thousand, or a million, if we are to approach certainty. So scientists who report negative findings routinely quote the "power" of their study design to detect a positive effect, if one existed.

Professor Adler, I'm sure, knows all this, and doesn't need a lecture from me. But we do need to be careful when interpreting absent evidence. After all, everyone knows of some sprightly ninety-year-old who smoked three packs a day all his life. And it never did him any harm. . . .

Grant Hutchinson
Dundee, U.K.

Jonathan E. Adler responds:

The usage of "closed-mindedness" was meant ironically, partly signaled by the qualifying phrase "in the sense of."

I agree with the substance of Hutchinson's comment that the force of absent evidence depends upon empirical assumptions such as representativeness. Yet, my appeal to the example from Conan Doyle underestimates the value of absent evidence, contrary to the caution suggested in Hutchinson's letter. While absent evidence in the Doyle story is salient (it is striking to Holmes that the dog does not bark), it is not for the alien abduction stories. The absent evidence is just the continuing normalcy of events, where the alien abduction stories predict descriptions.

Magnetic Fuel Treatment

One reason Mike Powell did not find much published on magnetic fuel treatment research ("Magnetic Water and Fuel Treatment," January/February 1998) is that there probably has been little published. I ran a "significant difference" experiment last year using a magnetic fuel saver device as described by Mr. Powell (available from J. C. Whitney for about $15 with discount, $25 without—plus shipping). The claimed improvement in fuel consumption was 10 percent to 20 percent. In other words, a vehicle that gets 19 miles per gallon without the magnetic device should get almost 21 miles per gallon with the device if there was a 10 percent improvement in fuel economy. This difference is significant because it could easily be measured when the experiment is repeated in other tests or replicated by other researchers.

First I recorded approximately 5,000 miles of general-purpose driving without the device. The mileage ranged from 15 to 19 mpg depending on an almost endless assortment of variables. Next I installed the magnetic fuel saver and ran the vehicle for 2,000 miles per instructions (to clear out the old deposits). Then I recorded the mileage for 5,000 miles with the device installed. The mileage ranged from 15 to 19 miles per gallon. Breaking the results down further, the mileage on the highway ranged from 17 to 19 mpg with and without the device. Since there was no significant difference, I did not publish; therefore, Mr. Powell did not find my research paper.

What my "research" did reveal is that if one wants to improve mileage on the highway, remove the luggage rack. In this case the bare bars of the luggage rack appear to have resulted in 17 mpg on the highway compared to 19 mpg without the luggage rack. Additionally, one can achieve better mileage by driving slower, especially in a sport utility vehicle such as the Pathfinder used in the tests, which has a drag coefficient similar to a house boat. Finally, if you really want to save gasoline, drive a smaller vehicle.

Harry Arnold
Oak Ridge, Tenn.

Jesus in the Clouds Photo

I was very amused to see Joe Nickell's report on the Jesus in the Clouds picture in the January/February 1998 issue. I have been working in photography for over 25 years, most of it as a custom black-and-white lab technician. For the first few years after becoming employed at a small lab in St. Louis, I grew very familiar with this image. I must have made twenty separate copy negatives and nearly a thousand prints of it.

The "originals" from which I worked were themselves copies of varying degrees of quality and clarity and size, the most common being a standard 3.5x5 inch print. Some showed clear signs of having been retouched to enhance the impression, but most seemed to have come from an unretouched source. The people ordering these had, in their turn, been given their copy, like a chain letter, and I've since been shown them by well-intentioned acolytes eager to show me this miracle (one of whom tried to tell me that she had taken the image). They would have them copied and get fifty or a hundred new prints and mail them out.

I have never seen the true original, although I did see one which appeared to have been a copy from a contact print—an image made by directly laying a negative on the paper and exposing it to light rather than using an enlarger—and as such the edge of the film was faintly visible. It's difficult if not impossible to say how many generations old a given copy may be, but the contact prints from which this particu-

lar image had been made showed a very large negative, about 3x5.5 or 5.75 inches or thereabouts, which would make it an obsolete type of film for one of those old Kodak roll film cameras one sees occasionally in movies about the Roaring Twenties. Type 100 was my guess. Now, whether this image had come from a copy made by a type 100 camera or if this was a copy of an original print made from the original negative, it's nearly impossible to say. But if the original image had been shot on type 100 film, that could easily date it back to the late 1920s and all through the '30s.

In any event, to my eye the original had probably shown something more or less what we see now. An accident of nature. We've all watched clouds and picked out patterns and once in awhile those patterns have a stronger relation to what we imagine than usual—a lucky coincidence of cloud and light and camera, which has since become what surely must be one of the more enduring chain-mail objects in this century.

Mark W. Tiedemann
St. Louis, Mo.

Dowsing and Professor Hancock

Dr. Hancock's factual paper on dowsing ("Dowsing the Rollrights," January/February 1998) is much appreciated. To continue our interest in the subject: we have a wonderful unique opportunity to

(1) Make significant use of dowsing (if it works), or

(2) Settle the issue once and for all.

I'm referring to a worldwide desperate need to clear land mines. These exist in the hundreds of thousands, and claim hundreds of innocent victims every year. I would expect dedicated dowsers to welcome the opportunity to serve mankind, and at the same time accumulate a wealth of reliable data on the "art."

Walter R. Studhalter
Woodland Hills, Calif.

Professor Hancock is entitled to demonstrate the way in which minute muscular or gravitational changes account for the movement of dowsing rods ("Dowsing the Rollrights," January/February 1998). But he is no more entitled to conclude from this that dowsing is "self as unrecognized cause" as he is to argue that a fogged up windscreen arises from a tropical downpour. It is absurd to take one aspect of one part of a huge and complex phenomenon and extrapolate a deduction which ignores 99% of the relevant evidence—most of it having nothing to do with muscular tremors.

If the dowsing instruments, howsoever operated, do actually enable hidden pipes, aquifiers, underground streams, archaeological remains or mineral deposits to be accurately located, it doesn't matter whether the dowsing rods move independently or through the body movements of the operator. The first questions are whether this success is always fortuitous, or simply the result of visible clues, or deception, and whether there have been any controlled, methodologically rigorous blind tests, susceptible to probability evaluation, to support the hypothesis that this a genuine phenomenon. If so, the next question is whether there is any explanation which does not contravene established physical laws.

If, instead of reciting a list of largely outdated studies, Hancock had addressed himself to the widely publicized results published by Professor Hans-Dieter Betz (*Journal of Scientific Exploration*, Vol. 9, nos. 1 and 2), he might obtain a positive answer to the first questions, and thereby recognize how irrelevant and misapplied his deductions were. This is no mere academic issue. Betz's papers have shown how the German Government's Technical Aid Department (Deutsche Gesellschaft für Technische Zusammenarbeit) saved large sums, to the lasting benefit of many thousands of villagers in twelve semi-arid countries over a decade or more by employing skilled dowsers in conjunction with orthodox hydrologists to find with pin-point precision and exploit sources of potable water running below the surface of fissured limestone at depths and in topographical conditions that all but defeated traditional methods.

The longer you continue to publish ill-researched articles which continue to promote outdated hostility to a mysterious but clearly demonstrable practical research tool, the longer you will inhibit government departments, water companies, and archeological organizations from openly acknowledging their use of dowsers, and research institutes from seeking the funds required to research its strange mechanism.

Montague Keen
Pentlow, Sudbury
England

P.A. Hancock responds:

In responding to criticism it is a common tactic to identify, magnify, and respond to the weakest points raised by one's interlocutor. In the case of Montague Keen's letter this strategy presents many opportunities since, for example, he is incorrect in stating that I identified fluctuations in the force of gravity as responsible for the movement of dowsing instruments. He is also in error when equating the wonderful orchestration of many major muscles involved in *postural control with "tremors" or "minute* muscular . . . changes." They are neither. However self-satisfying such piecemeal responses may be, this strategy serves only to entrench individuals in their respective positions, convinced that opponents are willfully missing the point. Therefore, I will examine Keen's strongest argument and address the concern it raises.

In a foretaste of his obvious belief in the efficacy of dowsing, Keen dismisses theory in advance of observation. His order of *progress is to first test, since "it doesn't mat*ter whether the dowsing rods move independently or through the body movements of the operator." I think he is mistaken. It was Albert Einstein who observed that:

> *"But on principle it is quite wrong to try founding a theory on observable magnitudes alone. In reality the very opposite happens. It is the theory which decides what we can observe."*

Einstein's observation is as relevant to the study of human, or ecological mechanics, as it is to quantum or celestial mechanics. Paradoxically, Keen then does offer potential causal hypotheses such as visible clues and deception, which are subsequently swamped in the pragmatism of 'lasting benefits' and his final affirmation of belief that dowsing is actually "a mysterious but clearly demonstrable practical

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research tool" which operates by some "strange mechanism." In Keen's response, we have to wait for the two final words to reveal his causal belief.

Keen's strongest support is his call on the recent study of Betz (1995 a, b) which reports the results of both field and controlled experimental evaluations. With respect to field studies, as I indicated in my original article, "it is difficult in natural settings to distinguish the influence of recognizable physical environmental influences from other potential sources." In many pursuits such as piloting, radiography, vehicle repair, and the like, we pay professionals who have learned through experience to observe and react to subtle patterns of sensory stimulation that are ignored or unregistered by naive observers (e.g., see Hutchins, 1995). The question is whether individuals identified as "successful" dowsers use these subtle sensory pattern-recognition strategies. The assertion that they do is supported by the recent observations on "Scientific American Frontiers" in which Ray Hyman asked an experienced dowser to identify the location of a hidden object in which the 'context' of performance did not present the natural cues that might be expected in, for example, water dowsing.

Betz (1995a, 16) himself addressed this concern by trying to present a similar context-independent environment (although two dry wells had already been drilled in the area) and suggests that "intelligent guessing" was "visibly hopeless." However, as we do not know what cues dowsers might use in natural settings, (indeed since they employ an external aid, they themselves may not be able to articulate such cues) it is hard to specify *a priori* what "visibly hopeless" represents. The ultimate in context-free conditions is the controlled experimental laboratory and I would be transgressing my own principle if I did not point out that Betz's stronger evidence derives from these more controlled situations. The concerned reader must access these original reports for a fair and thorough assessment since space restrictions here prevent a detailed response.

What is most helpful is that Betz postulates a chain of causation invoking "physical fields with location dependent gradients, detection by the human organism. Subsequent interpretation, classification, and selection of the perceived field information and reaction (by means of more or less sophisticated movements of a dowsing rod) provided that the searched characteristics occur at the location and are recognized by the dowser" (Betz, 1995b, 180). The fundamental question, of course, concerns the nature of the physical fields postulated. If these are interactional aspects of normal sensory fields (not necessarily limited to vision) or "affordances" as Gibson (1979) termed them, then no additional feedback loop via rod gyration is necessary to make the dowser's observations manifest. However, if the dowser still requires this prosthetic to make their unconscious recognitions externally manifest, it remains a case of self as unrecognized cause. As I explained carefully in my article, this does not necessarily exclude as yet unknown physical mechanisms, since even evidence of unperceived self-stabilization as a causal conduit does not necessarily exclude additional influences. In any test of such capabilities, goal underspecification remains a significant problem. It is vital that the criterion for success must be specified unequivocally and prior to the event. In dowsing stone circles, for example, the search is for an energy field around each individual stone, which itself can only be recognized by fluctuations of the dowsing instruments. Without independent forms of "energy" measurement this represents as pure a physically tautological situation as one could conceive.

In the investigation of many other paranormal phenomena, the tendency is to develop hit-miss methodologies. Underspecification here presents grey areas in which hits and misses themselves become a matter of pattern interpretation. Pragmatists may ask the question of whether it matters if a dowser hits a source of water after specifying the wrong depth and flow rate. To someone dying of thirst it may well seem an academic exercise. However, understanding through science is an academic exercise. Finding and exploiting sources of water fit for human consumption is a vital concern. Water shortage and water pollution problems represent one of the major resource challenges for the coming century and the absence of clean drinking water threatens a significant portion of the world's population.

We need to distill every skill and capability that can help to alleviate such shortage an associated misery. To capture and exploit such skills, we need scientific investigation of the causation involved in any successful form of discovery. To rely upon pseudoscientific assertions of strange mechanisms or mysterious forces is a betrayal of those in need.

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Gullibility an Evolutionary Advantage?

Thanks to Edward Summer for his recent article on the film *Fairy Tale, A True Story* (News & Comment, January/February 1998). It was good to read a piece in *SI* showing sensitivity to our failings. Sometimes I feel that skeptics as a group might be prone to self-congratulatory backslapping at the expense of communication with the mortals. There has to be a reason (other than the perversions of the media) why so many of our friends and colleagues appear to be drifting around quite happily in a fog of alternative-ism. In my reveries I have this image of the future, a glittery showroom milling with well-intentioned individuals who are so disillusioned with the lack of professionalism among car mechanics that they've decided their next vehicle purchase will be a flying carpet.

A light went on when a friend suggested the basic reason could be that gulli-

bility offers evolutionary advantage! Think about it, throughout history civilization has been framed by religion: elaborate constructs of fable and ritual conveniently packaged to provide a nice, clean sense of purpose and guaranteed relief from responsibility and death—optimism where none is otherwise justified. The poor skeptics, on the other hand, had to carry around this huge burden of realism, and, if otherwise unexceptional in nature, they probably had a lower energy level for normal life, and little strength to overcome despair when necessary for survival. Overall, the skeptics may have been less efficient, and perhaps less attractive as breeding partners (which would also explain the legendary difficulties of math students on first dates.)

If so, my skeptical friends, the battle we are facing is within us, and the root cause of all of this stupidity might actually be a perfectly healthy human characteristic which, by the cruel dictates of survival, has ended up genetically sharing our space with the more distinguished traits of inquiry and precision. As Edward Summers points out, in our children the problem is clearer to see, to tolerate and understand.

Geoff Bateman
Toronto, Ontario
Canada

Longtime SI *readers may recall two earlier articles partially supporting Mr. Bateman's conjectures: L. Sprague de Camp's "The Uses of Credulity" and Isaac Asimov's "The Perennial Fringe," both published in our Spring 1986 issue (Vol. 10, No. 3) and reprinted in the* SI *anthology,* The Hundredth Monkey, *Prometheus, 1991.*

—Editor

Probability and Beyond

Although I had great difficulty in understanding John McDonald's "200% Probability and Beyond" (January/February 1998) insofar as his finer details are concerned, his conclusion "that people will accept any given proposed explanation of an unusual event—even one almost certainly wrong—is directly related to how few alternative explanations are accessible," is clear enough.

While the emphasis of the SKEPTICAL INQUIRER is usually on uncovering fraud, exposing hoaxes, and generally trying to rid the world of psychic silliness and other such, this article reminds us that sometimes serious problems must be approached in the manner of his examples. I am thinking in particular about the tragic loss of Flight 800 and the subsequent investigation. Very early on we were offered three possible causes of the awful event. One, a missile (launched by design or inadvertence); two, a bomb placed on board by terrorists; three, an onboard explosion of unknown origin. Of course, there was the "catchall hypothesis" that might range from aliens to witches. More than a year and many millions of dollars later we have learned that it "most likely" was the result of an explosion of vapors in an empty center wing fuel tank.

Despite the thoroughness of the investigation there are many people who will continue to believe in the correctness of one of the other explanations which confirms that, as in this case, with only a few alternatives, many will cling to one that is wrong. What can we do?

John Stouffer
Hingham, Mass.

I am in agreement with most of John McDonald's "200% Probability and Beyond." However, I must take issue with the method he uses to calculate the 200% extrapolation, and thus the title itself.

He should have multiplied each group's percentage by the number of alternatives that they were aware of, not by the number in total. Otherwise, if he had proposed 10 alternatives, for example, but only told the 2-alternative group about two of them, the extrapolation would have produced a score exceeding 550%, and if he had found 20 alternative explanations, again telling them of only 2, the extrapolation would exceed 1100%. Obviously, this form of extrapolation is invalid, since it depends only on the depth of imagination of the experimenter in coming up with more alternatives, and not on the experimental conditions.

The 2-alternative group's score should be extrapolated to $2 \times 55.42\% = 111\%$; the 3-alternative group's score becomes

$3 \times 32.36\% = 97\%$; the 4-alternative group's score becomes 103%.

Without knowing more details of the experiment, I cannot calculate the confidence statistics, but these extrapolations appear to be within an acceptable confidence limit for this hypothesis: "Given N alternatives, including the catchall 'all other explanations' category, people will allocate the probabilities at about 100/N for each alternative, regardless of the true probability of each alternative."

Collier N. Smith
Lafayette, Colo.

John McDonald replies:

I sympathize with Collier Smith's confusion regarding the extrapolation procedure employed in my research. It is not an easy task to make all of the details of a complex experiment clear in a brief, nontechnical article. However, the extrapolation procedure that I employed is standard in the hypothesis-assessment literature, and designed specifically for the type of conditions employed in my experiment.

Mr. Smith is quite right in saying that this procedure grossly underestimates the degree of overconfidence that I could have produced by constructing additional explanations. I make this same point in my article. Despite the fact that the procedure is, thus, a highly conservative measure of overconfidence, subjects still produced probability estimates that exceeded what was logically possible. Each of the four specified explanations employed for each event could not have been 55.42% probable, as they were rated on average in the two-explanation condition. (Keep in mind that, across subjects, all four explanations were employed equally often in every experimental condition.)

Furthermore, Mr. Smith's suggestion that extrapolation measures should be based on the number of explanations subjects were exposed to misses the point that the summed probability of each set of explanations subjects were exposed to equal 100 percent. The fact that scores for specified explanations were slightly higher than 100 percent using this method simply reflects the fact that specified explanations were rated slightly higher than catchall explanations. His measure tells us nothing about whether subjects were nonnormatively overconfident of specified explanations.

Cannibalism, Myth or Reality?

Martin Gardner, in his essay "Is Cannibalism a Myth?" (January/February 1998), appears dubious that there was ever a human society in which cannibalism was ubiquitous and formalized; he is seemingly dismissive of evidence pertaining to Aztec cannibal practices because, "[t]he conquistadors, who wrote all the books, are . . . the main source for belief in Aztec cannibalism." I would submit, however, that three modern historians, (not anthropologists)—Jon Manchip White (*Cortés and the Downfall of the Aztec Empire*, 1971), Inga Clendinnen (*Aztecs*, 1991), and Hugh Thomas (*Conquest: Montezuma, Cortés, and the Fall of Old Mexico*, 1993)—all accept the proposition that ritual human sacrifice and attendant cannibalism were an integral aspect of Aztec culture and the brutal centerpiece of that civilization's meticulously staged, baroquely phantasmagoric religious ceremonies. Reading descriptions today of these grotesque extravaganzas is stupefying; withal, the historical record leaves no doubt that the Aztec nation reveled in its surreally savage spectacles.

A final point: Medieval Christians didn't accuse Jews of "devouring Christian babies," but of draining their blood to use as an ingredient in Passover matzohs.

Howard Schneider
Rego Park, N.Y.

Martin Gardner poses the question "Is Cannibalism a Myth?" and quickly answers that it is. Since the question is not rhetorical, what is being asked? Gardner cites cases of *situational cannibalism*, i.e., airplane crashes, ship wrecks; ritual cannibalism, i.e., eating all or parts of an enemy to acquire their power; and *pathological cannibalism*, i.e., eating of a murder victim. Apparently his question is directed at *subsistence* (habitual?) *cannibalism*. Subsistence cannibalism exists when societal members rely on human flesh as a substantial component of their diet.

Gardner provides an extensive array of citations. Many of these references provide examples of a society's cultural boundary maintenance practices. As one means of maintaining cultural boundaries, members of a society might believe a neighboring tribe practices cannibalism. Such psychological barriers help keep societal members in their "own" territory. Examples of such boundary maintenance may have reinforced the idea that subsistence cannibalism was widely practiced. If a neighboring tribe practiced ritual cannibalism, knowledge of such practices would have strengthened the beliefs of their neighbors.

Because of values associated with American beliefs in individualism and some of its associated components (importance and uniqueness), the idea of humans eating humans is considered abhorrent. Some societal members even believe that there is something sacred about the human body and human beings. As such, humans should never be categorized as animals.

Archeological evidence for cannibalism is summarily dismissed by Gardner. Apparently he is not aware that faunal analysis includes replication experiments. Such experiments show that bone fragments chewed or gnawed by animals leave distinctive marks on bones. And human activity such as butchering (cutting), pounding and breaking of bones, leave telltale marks. The real issue is how to interpret such evidence. Are these human bone fragments the result of situational, ritual, pathological or subsistence cannibalism? . . .

Considering the energy expended to hunt humans, as opposed to deer or other animals, it is unlikely that human flesh was ever a mainstay in any society's diet. Thus I would agree with Gardner's conclusion that subsistence (habitual) cannibalism may be rare (most likely does not exist) but situational, ritual, and pathological cannibalism does. Thus, as Gardner illustrates, cannibalism is not myth!

Lathel F. Duffield
Falls Church, Va.

Re: Martin Gardner's commentary, it seems certain that William Arens was absolutely right. Fears and allegations of institutionalized cannibalism are as old as human history and absolutely universal, yet are nearly always unfounded. Even the few but apparently trustworthy accounts of ritual consumption of small bits of enemies by their conquerors, or kings by their successors, or ancestors by their heirs, to gain courage or wisdom or to ensure continuity of the life force, are suspect.

A key to this apparent paradox may be found in the link between cannibalistic attributes of witches, in medieval Europe and in contemporary world ethnology. Witches are not quite universal, but beliefs in some kinds of flying, transforming, child-stealing, incestuous, murderous, cannibalistic, and/or vampiristic creatures of the night are absolutely universal among world's traditional peoples—and most of these attributes have been central in the satanism scares in the "modern" world of the past two decades.

The report that "the cannibals were all women who could, at will, turn themselves into birds," is familiar to anthropologists in Africa or Oceania whose informants referred to witches by the most appropriate English word they knew. (Most, but not all, witches are women.) Okay, so it couldn't really happen, but such accounts, reflecting fears that are timeless and absolutely universal, should not be quickly dismissed as "unbelievable fantasy."

Witches, and satanists, embody humankind's deepest fears and most horrible images and concepts of evil.

Phillips Stevens, Jr.
State University of New York
Buffalo, N.Y.

I have delighted in SKEPTICAL INQUIRER since I first subscribed—about the time it first adopted the name. Martin Gardner has been, in my opinion, one of your most informed and interesting contributors. But sooner or later, anyone can stumble.

"There is not a shred of reliable evidence that the Iroquois, or any other native American culture, indulged in the ritual of eating of human flesh," he says on page 14 of the January/February issue.

I have read a lot of ethnohistorical and archaeological literature, both classic and contemporary, pertaining to the northeast, and particularly to New York State and surrounding areas. I have also met and talked with several regional professional archaeologists and attended nearby professional meetings.

I have not read William Arens's book, but I have seen it discussed and reviewed. Thanks to my knowledge of local prehis-

tory, I am able to dismiss his assertion as another regrettable politically correct morality play.

Norman P. Carlson
Jamestown, N.Y.

I read with interest Martin Gardner's "Is Cannibalism a Myth?" Unfortunately, it is rather dated given that the most recent comprehensive work on the subject seems to have been unknown to the author. My book *Cannibalism: From Sacrifice to Survival* was published by Prometheus Books in 1994.

Dr. Hans Askenay
Laguna Beach, Calif.

With regard to Martin Gardner's column on the debate over whether there have ever been cultures in which cannibalism was a common custom, I suspect that many of the participants have a large emotional investment in the outcome. This emotion seems to arise from the notion that killing people so that one can eat their flesh—or killing them for other reasons and then eating their flesh anyway—is significantly more morally repugnant than just killing them. I find this idea very strange.

James Barrett
Physics and Astronomy Dept.
State University of New York
Stony Brook, N.Y.

GMA's 'Fringe or Frontier' Series on ABC

I find Robert Park's hyperbolic criticisms of my recent "Fringe or Frontier" series on ABC's *Good Morning America* (News & Comment, January/February 1998) mostly entertaining. But for a little perspective, here are some facts to bear in mind.

In my ten years at ABC-TV, I have presented nearly a thousand stories concerning major mainstream developments in nearly every important scientific discipline, from anthropology to zoology. But Mr. Park chooses only to harp on those fewer than a dozen stories that he considers illegitimate. He is entitled to his opinion, of course, and I respect it as much as I do the millions of others held by my viewers.

With regard to Mr. Park's observation that I am "uniquely positioned to help millions of viewers understand that they live in a rational universe," I see my responsibility very differently. As a journalist (or physicist and teacher for that matter), I am not in the business of espousing any one philosophical world-view or of disabusing viewers of their alleged superstitions, either Mr. Park's or anyone else's. My goal is to report accurately and open-mindedly any interesting and credible goings-on within science, be they orthodox or iconoclastic.

Contrary to your headline, our series did not "tout" (as in "to promote or praise energetically") ESP, psychokinesis, or astrology. Rather, we featured the experiments of several well-qualified scientists at credible institutions (Princeton, University of Nevada, University of Göttingen) attempting to apply the scientific method to those three subjects. Only through rigorous studies, they believe, can we get beyond the endless and largely emotional-philosophical arguments between "skeptics" and "believers."

As for the astrology segment, I made it quite clear more than once that I did not believe in astrology and neither did the scientist whose work I featured ("I'm not a believer in astrology. I'm not interested in astrology at all"). Rather the segment dealt with the so-called "Mars effect."

From beginning to end, we worked with CSICOP, especially chairman Paul Kurtz, who was very generous with his time and advice. Consequently, in each segment, we allowed a skeptical scientist to voice his opinion about the research. In the interest of saving precious seconds, and because I saw no good reason for it, I didn't plug the Committee for the Scientific Investigation of Claims of the Paranormal by name; but for the same reasons, neither did I plug the organization to which all the featured scientists belong, the Society for Scientific Exploration.

Finally, according to Mr. Park: "The problem is that he treats them as open and important scientific questions that must be taken seriously." Unless Mr. Park knows something I don't, the questions we entertained are exactly that. They're *open*, as evidenced by the continuing disagreement among intelligent, well-educated people. They're *important*, as evidenced by the attention millions of people pay to them and by the existence of publications such as the SKEPTICAL INQUIRER. And if we don't consider them *scientific* questions, then we relinquish the responsibility of settling them once-and-for-all to the quacks and zealots on both sides who have traditionally dominated the discussion.

Michael Guillen, Ph.D.
Senior Science Correspondent
ABC-TV
New York, N.Y.

Robert Park responds:

Michael Guillen states very emphatically that in the astrology segment of the "Fringe or Frontier" series, neither he nor his guest, Suitbert Ertel, believes in astrology. "Rather the segment dealt with the so-called 'Mars effect.'" And what is the Mars effect? As Guillen explained on the program: "People born when Mars is rising or directly overhead are likely to become athletes, military officers or executives. In the case of Saturn, they say, scientists and physicians are more likely. With Jupiter, it's actors and writers; and so on." Ertel believes in the Mars effect.

Astrology is defined as "The study of the positions and aspects of celestial bodies in the belief that they have an influence on the course of natural earthly occurrences and human affairs." Quite clearly then, the Mars effect is astrology. In spite of his disclaimer, therefore, Ertel believes in astrology. But what does Guillen believe? "You know, I don't believe in astrology and this effect is so small it affects, if it's true at all, about one in ten million people. But, on the other hand, very small effects in physics and astronomy, quantum mechanics, theory of special relativity, have borne out. So I think we're just going to have to suspend judgment."

Guillen added a final note in the segment: "These people are not flakes. Suitbert Ertel is a very respected scientist, so you can't just dismiss it."

It is not up to the media to decide what is good or bad science. However, the media do have a responsibility to convey a realistic impression of whether other scientists think it is good or bad. Only a tiny fraction of all scientific research, after all, is ever covered by the popular media. The majority of research

scientists go through their entire careers without once encountering a reporter. Voodoo science, by contrast, is often pitched directly to the media, deliberately circumventing the normal process of scientific review and debate. The result is that a disproportionate share of the science seen by the public is flawed.

Robert Park
University of Maryland
College Park
and American Physical Society
Washington, D.C.

Michael Guillen replies:

Actually, I agree with Mr. Park that a disproportionate share of the science seen by the public is flawed, but ironically the vast majority of it comes straight from our refereed journals, not voodoo scientists. Think about it. Many of today's research results dutifully carried by all our newspapers and newscasts are routinely contradicted by some subsequent study. (A few famous examples: Mars rock, moon ice, all the foods that are bad, then good, then bad for us.) That's not surprising, nor is it really a criticism. After all, it's not the nature of science ever to know anything with absolute certainty. Which is why Mr. Park's remarkable ability to know exactly what is and isn't possible, to distinguish between "good" and "bad" science with such complete confidence strikes me, well, as just so much voodoo.

Dihydrogen Monoxide Additional Dangers

While your long-overdue article on the dangers of Dihydrogen Monoxide (News & Comment, January/February 1998) is a refreshing break in the otherwise uniform failure of the media to expose the threat of this pernicious substance, it falls far short of truly informing the public.

The United States has a long history of unrestrained and unregulated use of Dihydrogen Monoxide. Many of the dangers are only recently being documented by courageous scientists who risk their corporate and government funding to explore the danger. Your readers should be aware of the following additional facts:

1. Politically well-linked corporations dump Dihydrogen Monoxide into the nation's streams and rivers without fear of punishment.

2. Dihydrogen Monoxide is exhaled by smokers, creating the danger of secondary exposure.

3. Dihydrogen Monoxide is found in the blood serum of virtually all patients infected by HIV.

4. Most Gulf War veterans with unexplained symptoms can be shown to have ingested Dihydrogen Monoxide while serving in the Gulf.

5. Dihydrogen Monoxide provides a major vector by which cheap, foreign-made products enter the United States, causing the loss of American jobs.

6. In more heavily polluted regions, Dihydrogen Monoxide in the air blocks sunlight, causing an increase in Seasonal Affective Disorder, depression, and suicide.

7. Many abusers of alcohol also consume Dihydrogen Monoxide heavily while drinking.

8. Consumption of Dihydrogen Monoxide has been linked to frequent urination and other kidney problems.

9. In many nations where the pristine environments are relatively free of Dihydrogen Monoxide (such as Saudi Arabia, Kuwait, Brunei), average income is well above those in more heavily contaminated western nations.

I thank you for the chance to enlighten your readers, and urge you to continue your efforts to rip the lid off this long-suppressed national scandal.

David Hill
Lansing, Mich.

Spock was from Vulcan

In "The Ghost Planet" (Book Review, January/February 1998, p. 53), Terence Hines suggests that *Star Trek*'s planet Vulcan may have been borrowed from the 19th-century planetary hypothesis. I recall reading in the vast unindexed *Star Trek* literature that, one day on the set, a name was needed for the planet of Mr. Spock's origin. Actor Leonard Nimoy, who played Spock, was from Vulcan, Alberta, Canada, suggested the name of his home town.

Dennis Feucht
Townville, Pa.

Gone with the Wind

C. Eugene Emery ("Psychic Forecasts Were a Big Flop (Again)," January/February 1998) reports that a tabloid psychic predicted that Pamela Anderson Lee and Howard Stern "would star in the title roles in a rock musical version of Gone with the Wind."

I presume that Ms. Lee was to have played "Gone" and Stern would have been "*the Wind.*"

James Hyder
Columbia, Md.

A Plea for Help, Advice

I am a fan of your organization and an ex-science teacher. I wish to continue teaching. In the two years of layoff from teaching, I have studied intensely the debate between science and religion. I am convinced of the correctness of science and the folly of fundamentalism. Recently I have been reading *Rescuing the Bible from Fundamentalism* by John Spong (HarperSanFrancisco 1991) and find it comforting.

Science is against most Americans' religion, plain and simple. We are kidding ourselves when we think otherwise. As I said, I am very well informed of the history and facts surrounding the fundamentalist rejection of science. Logic will not convince these people. The only "proof" they need of their truth is the Bible or whatever. The above-mentioned book deals with this excellently from an Episcopal bishop's enlightened point of view.

So, the question I have to you, whoever you are, is: *How does a person teach science in public school without alienating a public taught in church to be suspicious of science?*

I am very aware of the Supreme Court decisions regarding Arkansas and Louisiana. These mean nothing to the fundies. Please help.

Dale Kirksey
Beaumont, Tex.

The letters column is a forum for views on the matters raised in previous issues. Letters should be no more than 225 words. Due to the volume of letters, not all can be published. They should be double-spaced. Address: Letters to the Editor, SKEPTICAL INQUIRER, 944 Deer Dr. NE, Albuquerque, NM 87122.

GUIDE FOR AUTHORS

The SKEPTICAL INQUIRER critically examines claims of paranormal, fringe-science, and pseudoscientific phenomena from a responsible, scientific point of view and provides a forum for informed discussion of all relevant issues. Our subtitle is "The Magazine for Science and Reason." We encourage science and scientific inquiry, critical thinking, and the use of reason and the methods of science in examining important issues. The readership includes scholars and researchers in many fields and lay readers of diverse backgrounds.

Write clearly, interestingly, and simply. Avoid unnecessary technical terms. Maintain a factual, professional, and restrained tone. All submissions are judged on the basis of interest, clarity, significance, relevance, authority, and topicality.

Direct critiques toward ideas and issues, not individuals. Be prepared to provide documentation of all factual assertions. A useful set of guidelines for those who seek to evaluate paranormal claims, titled "Proper Criticism" and written by Professor Ray Hyman, is available from the Editor. Among the guidelines: clarify your objectives, let the facts speak for themselves, be precise and careful with language, and avoid loaded words and sensationalism. State others' positions in a fair, objective, and nonemotional manner.

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Categories of contributions include: Articles, Book Reviews, News and Comment, Forum, Follow-Up, and Letters to the Editor.

Articles: Articles may be evaluative, investigative, or explanatory. They may examine specific claims or broader questions. Well-focused discussions on scientific, educational, or social issues of wide common interest are welcome. We especially seek articles that provide new information or bring fresh perspective to familiar subjects. Articles that help people find natural explanations of unusual personal experiences are useful. So are articles that portray the vigor and excitement of a particular scientific topic and help readers distinguish between scientific and pseudoscientific approaches. Well-balanced articles that report on and evaluate controversial scientific claims within science itself are also needed.

The SKEPTICAL INQUIRER must be a source of authoritative, responsible scientific information and perspective. The Editor will usually send manuscripts dealing with technical or controversial matters to reviewers. The authors, however, are responsible for the accuracy of fact and perspective. It is good practice to have knowledgeable colleagues review drafts before submission. Reports of original research, especially highly technical experimental or statistical studies, are best submitted to a formal scientific journal; a nontechnical summary may be submitted to the SKEPTICAL INQUIRER. Studies based on small-scale tests or surveys of students will be considered only if they establish something new, provide a needed replication of some important earlier study, or test some new theoretical position.

Space is at a premium; there are always many accepted articles awaiting publication, and many submitted articles cannot be published. Articles are typically 1,800 to 3,500 words (about 8 to 12 double-spaced typewritten pages). Longer manuscripts will be returned. Articles should be organized around one central point or theme. Be succinct. Remember, Watson and Crick's paper reporting the discovery of the structure of DNA took just over one page in *Nature*.

Articles should have a title page. Begin with a succinct, inviting title followed by a concise, 20- to 30-word statement of the article's main point or theme. This "abstract" will be published in display type on the first page of the printed article and used as a summary on the Contents page. The title page should also give the name of the author(s), full addresses, and the lead author's office and home telephone numbers, fax number, and e-mail address, and a word count. At the end of the manuscript, include a suggested author note of one to three sentences that gives relevant affiliations and credentials and an address for correspondence. If you do not want your address included in the author note, please say so. The manuscript should be accompanied by a brief cover letter stating that the article has not been submitted elsewhere and providing any other essential background for the Editor.

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The organizations listed above have aims similar to those of CSICOP but are independent and autonomous. Representatives of these organizations cannot speak on behalf of CSICOP. Please send updates to Barry Karr, P.O. Box 703, Amherst, NY 14226-0703.

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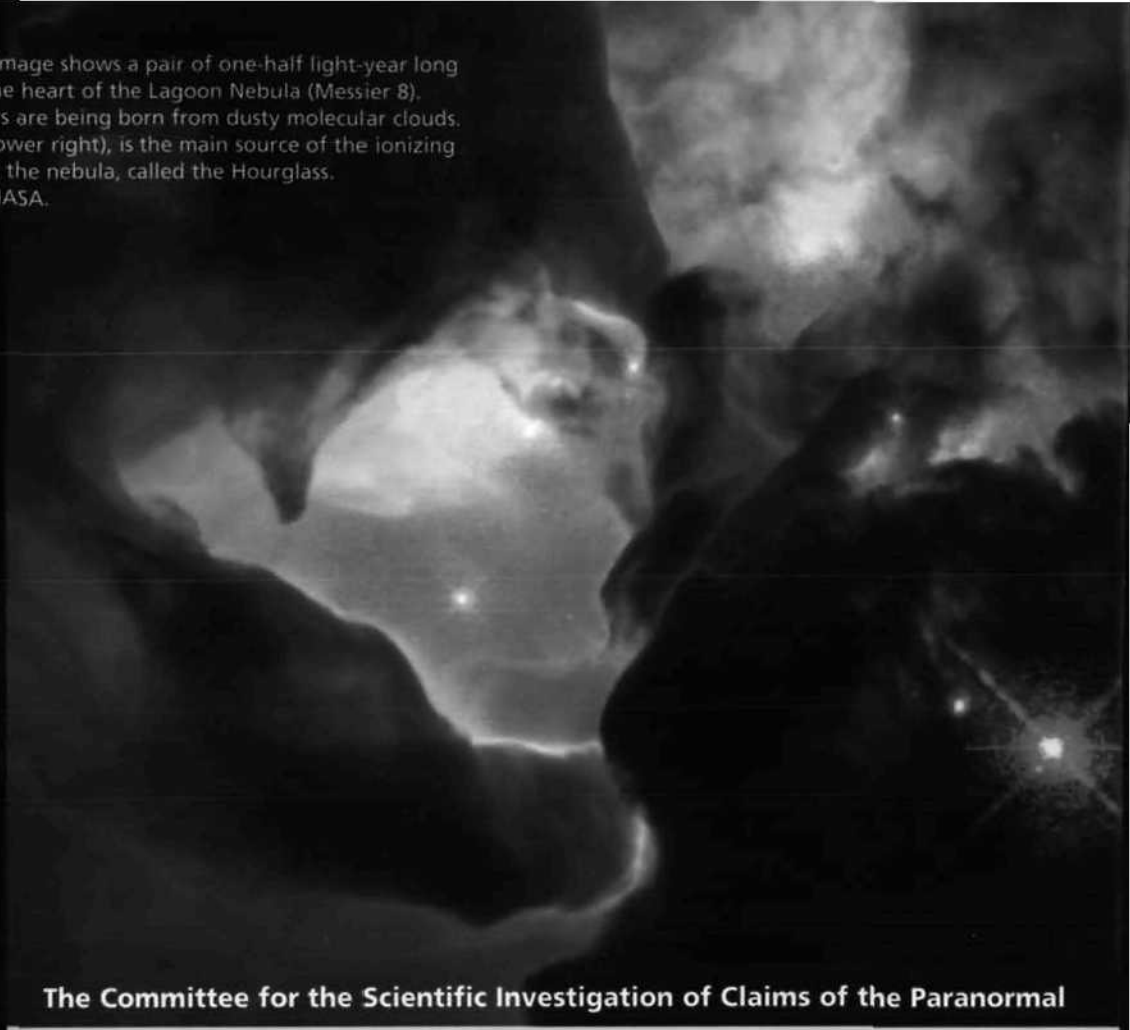

This NASA Hubble Space Telescope image shows a pair of one-half light-year long interstellar "twister" structures in the heart of the Lagoon Nebula (Messier 8). In this nebula, as in others, new stars are being born from dusty molecular clouds. The central hot star, O Hershel 36 (lower right), is the main source of the ionizing radiation for the brightest region in the nebula, called the Hourglass.
Credit: A. Caulet (ST-ECF, ESA) and NASA.

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The Committee for the Scientific Investigation of Claims of the Paranormal

The Committee for the Scientific Investigation of Claims of the Paranormal encourages the critical investigation of paranormal and fringe-science claims from a responsible, scientific point of view and disseminates factual information about the results of such inquiries to the scientific community, the media, and the public. It also promotes science and scientific inquiry, critical thinking, science education, and the use of reason in examining important issues. To carry out these objectives the Committee:

- Sponsors publications
- Conducts public outreach efforts
- Maintains an international network of people and groups interested in critically examining paranormal, fringe-science, and other claims, and in contributing to consumer education
- Encourages research by objective and impartial inquiry in areas where it is needed
- Convenes conferences and meetings
- Conducts educational programs at all age levels
- Does not reject claims on a priori grounds, antecedent to inquiry, but examines them objectively and carefully

The Committee is a nonprofit scientific and educational organization.
The SKEPTICAL INQUIRER is its official journal.

Skeptical Inquirer
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